Anæsthetics
Antient and Modern



Lecture Memoranda

A.M.A. Meeting

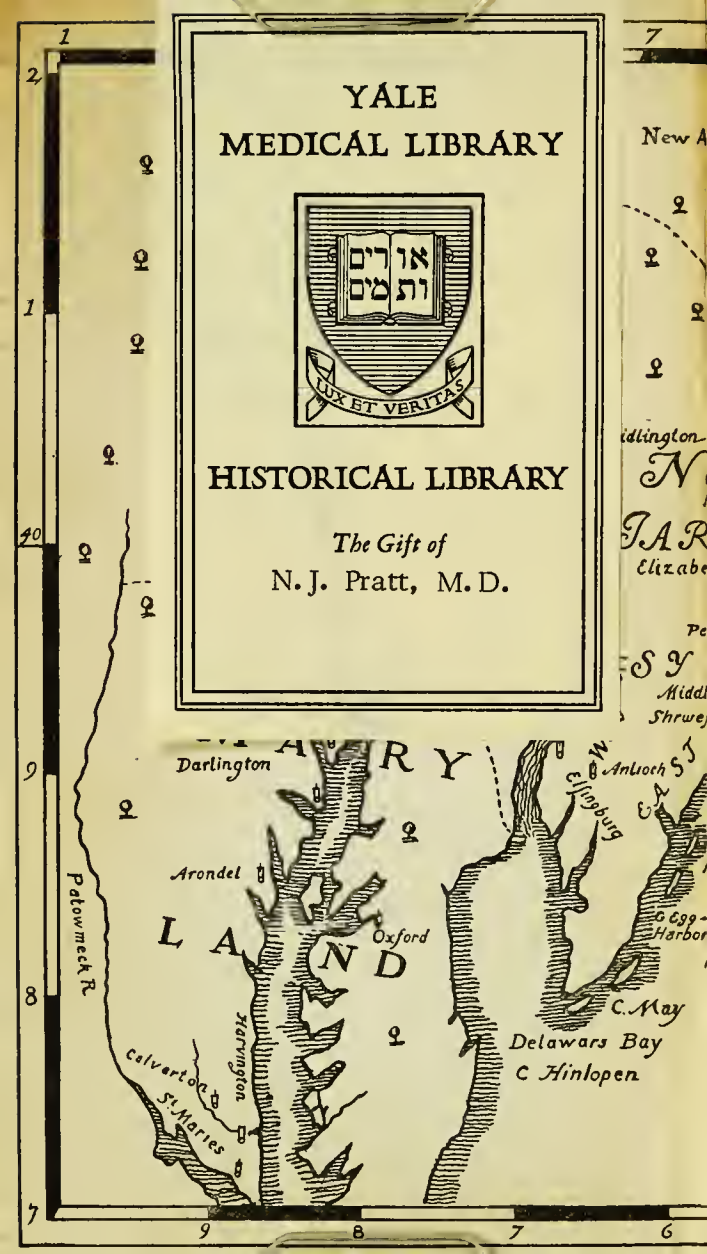
Atlantic City

1907

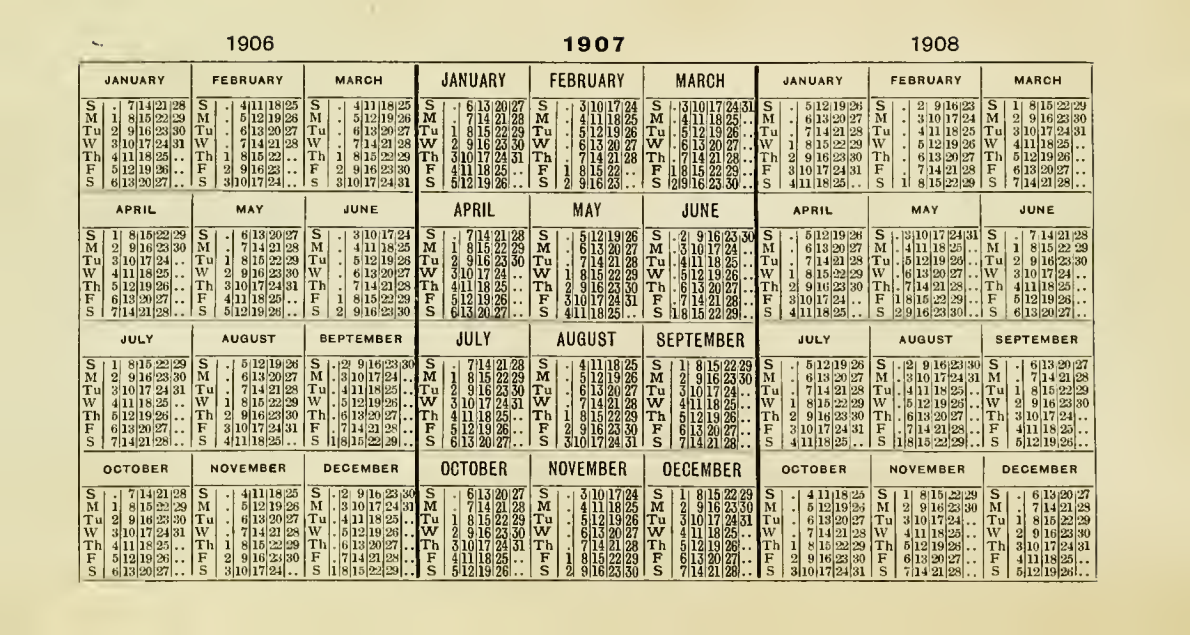
YALE
MEDICAL LIBRARY

HISTORICAL LIBRARY

The Gift of
N. J. Pratt, M. D.




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A MAP showing the colonies of
NEW JERSEY
PENSILVANIA and MARY LAND
1699



1906

JANUARY

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A Surgeon Performing an Operation

From a woodcut of the XVII century

ANÆSTHETICS

ANTIENT AND MODERN

AN HISTORICAL SKETCH OF ANÆSTHESIA

LECTURE MEMORANDA

American Medical Association

ATLANTIC CITY, N.J.

1907

BURROUGHS WELLCOME & CO.

LONDON (ENG.) NEW YORK MONTREAL SYDNEY
CAPE TOWN

United States Offices—
45, LAFAYETTE STREET, NEW YORK CITY

[U.S.A. 63



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Postal Information for the United States

Domestic Mail Matter includes all matter for local delivery, delivery within the United States, and delivery to or from or between the United States possessions. These rates also apply to mail matter to Canada, Mexico, Cuba and the United States postal agency at Shanghai, China.

Classification and Rates of Postage.—

First Class includes all written, sealed or personal communications, with the exception of certain inscriptions which may be placed on matter of other classes without increasing their rate. Rates:—2 cents per oz. or fraction—limit of weight, 4 lb.; United States postal cards, 1 cent each; post cards (private mailing cards), 1 cent each. Drop letters, or letters addressed for delivery at the office where mailed, to free delivery routes, are subject to the ordinary first-class letter rate, but where no free delivery system is in operation the rate is 1 cent per oz.

Second Class includes all newspapers and periodicals which bear the authorised statement, "Entered at the post office as second-class matter." (*See Note below.*) Mailed by the public, and unsealed, 1 cent per 4 oz.; no limit of weight, but full prepayment is required.

Third Class includes all printed matter, on paper, not having the nature of actual, personal correspondence, except newspapers and periodicals admitted to the second class. Rates:—1 cent per 2 oz. or fraction; limited to 4 lb. in weight, except for a single book, and must be unsealed and fully prepaid.

On the matter itself the sender may write or print a simple manuscript dedication or inscription not of the nature of personal correspondence. The words "book," "printed matter," "photo," are also permissible on wrapper. (*See Note below.*)

Fourth Class includes all merchandise and other matter not in the above classes. Rates:—1 cent per oz. or fraction, except seeds, bulbs, roots, scions and plants, for which the rate is 1 cent per 2 oz. or fraction; must be unsealed, fully prepaid, and not more than 4 lb. in weight. With a packet of fourth-class matter properly prepaid, the sender may enclose mailable matter of the third class. Enclosed inscriptions, such as "Merry Christmas," etc., are also permissible. (*See Note below.*)

Matter of a higher class enclosed with matter of a lower class subjects the whole package to the higher rate.

Forwarding Mail Matter.—All fully prepaid first-class matter—letters, parcels, postal and post cards, and official matter—can be re-directed and forwarded from one post office

---

Note.—Both on the wrapper and matter itself there may be written the name and address of the sender, preceded by the word "from."

to another without a new prepayment of postage. But second, third and fourth-class matter can only be forwarded on prepayment of the same rate as charged thereon when originally mailed.

Post Restante.—Letters addressed to persons temporarily sojourning in a city should be marked "Transient" or "General Delivery," if not addressed to a street and number, or some other designated place of delivery.

Special Delivery.—A 10 cent. special-delivery stamp, in addition to the lawful postage, secures the immediate delivery of any piece of mail matter at any United States post office, and within a one-mile limit if a free delivery office.

Miscellaneous.—Stamps in lots of 12, 24 and 48 are on sale at all post offices at an advance of 1 cent on their postage value. Postal cards are sold at the value represented by the stamp thereon. Stamped envelopes of different qualities and sizes, and 1 cent, 2 cent and 4 cent newspaper wrappers, in three sizes, can be purchased according to a schedule of prices hung up in all post offices.

Registry System insures safe transit and correct delivery at any post office in the world. The registry fee is 8 cents, in addition to the postage. A registered letter or parcel must also have the name and address of the sender written on the wrapper and be handed in at a post office, or given to a carrier, and a receipt obtained for it. A second receipt from the addressee acknowledging delivery is also returned to the sender without further charge. With foreign mails no receipt is returned to the sender unless application is made on the face of the letter or parcel.

In case of loss, the owner of a domestic registered article prepaid at the letter rate is indemnified for its value up to $25.

Postal Money Order System.—Single orders are issued for $100 or less; larger sums than these are only issued by means of additional orders.

Domestic Orders payable in the United States and its possessions, also in Canada, Cuba, Newfoundland, certain West Indian Islands, and Shanghai:—

> Fees—$2.50 or less, 3 cents; from $2.50 to $5, 5 cents; from $5 to $10, 8 cents; from $10 to $20, 10 cents; from $20 to $30, 12 cents; from $30 to $40, 15 cents; from $40 to $50, 18 cents; from $50 to $60, 20 cents; from $60 to $75, 25 cents; and from $75 to $100, 30 cents.

Foreign orders issued on International form:—

(1) Orders payable in Austria, Bahamas, Belgium, Bermuda, Bolivia, British Honduras, Chili, Costa Rica, Denmark, Egypt, Hungary, Japan, Liberia, Luxemburg, Mexico, Netherlands, New Zealand, Norway, Orange River Colony, Peru, Sweden, Switzerland, Transvaal and Trinidad:—

Fees—$10 or less, 8 cents; from $10 to $20, 10 cents; and 5 cents additional fee for each $10, or less, up to $100 on a single order.

(2) Orders payable in Apia, Cape Colony, France, Germany, Great Britain, Greece, Honduras (Republic), Hong Kong, Italy, New South Wales, Portugal, Queensland, Russia, Salvador, South Australia, Tasmania and Victoria:—

Fees—$10 or less, 10 cents; and 10 cents additional fee for each $10 up to $100 on a single order.

Foreign Mail Matter and Rates of Postage.—Mail matter for Canada, Cuba, Mexico and Panama is admitted under the same conditions as Domestic Mails except commercial papers and *bona fide* trade samples, which are charged the same rates as for foreign countries. Packages, other than a single volume of a printed book, must not exceed 4 lb. 6 oz. in weight.

For all countries in the Postal Union, mail matter is classified as letters, postal cards, prints, commercial or business papers, and samples of merchandise.

Letters, etc.:—

Rates:—Letters, for each 15 grams, or half oz., or fraction, 5 cents; single postal cards, 2 cents, or reply paid, 4 cents.

Printed matter of all kinds, so packed as to be easily examined without injury to wrapper.

Maximum weight of a parcel is fixed at 2 kilograms (4 lb. 6 oz.); and size at 45 centimeters (18 inches) in any one direction, and rolls must not exceed 75 centimeters (30 inches) in length, and 10 centimeters (4 inches) in diameter.

Rate:—1 cent for each 2 oz. or fraction.

Commercial papers—Regulations as to packing, weight and size are same as for printed matter.

Rate:—Minimum charge, 5 cents for first 10 oz. or less, and 1 cent for each additional 2 oz.

Samples of merchandise must be packed to admit of easy inspection, must not have any saleable value, nor bear any manuscript except the name, etc., of the sender. Liquid and fatty substances must be in sealed bottles and enclosed in wooden cases with sufficient wool, etc., to absorb the substance in event of breakage. All other samples must be securely packed.

Packages are limited to 350 grams (12 oz.) in weight, and 30 centimeters (12 inches) in length, by 10 centimeters (4 inches) in breadth; or if in roll form, 30 centimeters in length and 15 centimeters (6 inches) in diameter. Rate:—Minimum charge, 2 cents for first 4 oz. or less, and 1 cent for each additional 2 oz.

Registry fee for foreign mail matter to countries in the Postal Union, 8 cents (full information is given under "Registry System").

Comment adam et eue furent crees au ij·et au·iiij·c·de genesis



From a woodcut of the XV century

"And the Lord God caused a deepe sleepe to fall upon Adam, and he slept: and He took one of his ribs, and closed up the flesh instead thereof."

Genesis, chap. ii, verse 21

ANÆSTHETICS, ANTIENT AND MODERN

AN HISTORICAL SKETCH OF ANÆSTHESIA

"So God empal'd our Grandsire's (Adam's) lively look,
Through all his bones a deadly chilness strook,
Siel'd up his sparkling eyes with Iron bands,
Led down his feet (almost) to Lethe's sands;
In briefe so nunm'd his Soule's and Bodie's sense,
That (without pain) opening his side from thence
He took a rib, which rarely He refin'd,
And thereof made the mother of Mankind."

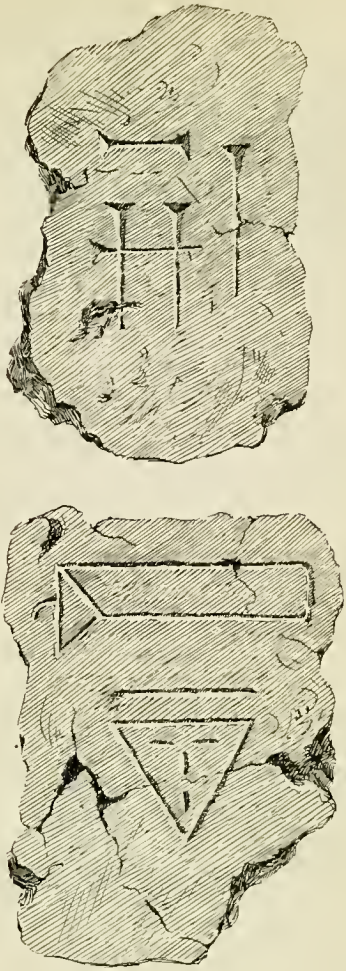
Thus a sixteenth century poet quaintly describes, and draws an impression of, from sacred records, the first operation tempered by anæsthesia. It has been claimed that in the "deep sleep" that the Creator "caused to fall upon Adam" is the germ of the idea of anæsthesia that has come down to us from the dim ages of the past. It is probable that primitive man employed digital compression of the carotid arteries to produce anæsthesia, as the aboriginal inhabitants of some countries do to-day. According to Caspar Hoffmann, this method was practised by the antient Assyrians before performing the operation of circumcision. Curiously enough the literal translation of the Greek and Russian terms for the carotid is "the artery of sleep."

The Dawn of Anæsthesia

The antient Egyptians are believed to have used Indian hemp and the juice of the poppy to cause a patient to become drowsy before a surgical operation; and the "sorrow-easing drug" which, as we are told in the fourth book of the "Odyssey," was given by Helen to Ulysses and his comrades, probably consisted of such substances. It is indeed actually stated that she learned the composition from Polydamnia, the wife of Thone, in Egypt. It is possible also that the "wine of the condemned," mentioned by the prophet Amos, may have been a preparation of the former drug.

The "Wine of the Condemned"

There are several passages in the Talmud which point to the fact that the practice of easing the pain of



MANDRAGORA *(the Phallus of the Field)*
Inscribed in cuneiform characters and in Egyptian hieroglyphics

torture and death, by stupefying the sufferers, was a very antient one.

Thus it is stated: "If a man is led forth to death, he is given a cup of spiced wine to drink, whereby his soul is wrapped in night"; and again, "Give a stupefying drink to him that loseth his life, and wine to those that carry bitterness in their heart."

In connection with crucifixion, which was a common punishment for malefactors among the Jews before the Christian era, with the sanction of the Sanhedrin, the women were wont to ease the terrible death agony of the sufferers by giving them something in the nature of a "wine of the condemned" upon a sponge. It is probable that the "wine mingled with myrrh" which, according to St. Mark, was offered to Christ before nailing Him upon the Cross, was indeed a narcotic draught, given with the object of lessening His sensibility to the agony.

Pliny relates that the Egyptians applied to painful wounds a species of rock brought from Memphis, powdered, and moistened with sour wine, which is the first record we have of local anæsthesia with carbonic acid gas.

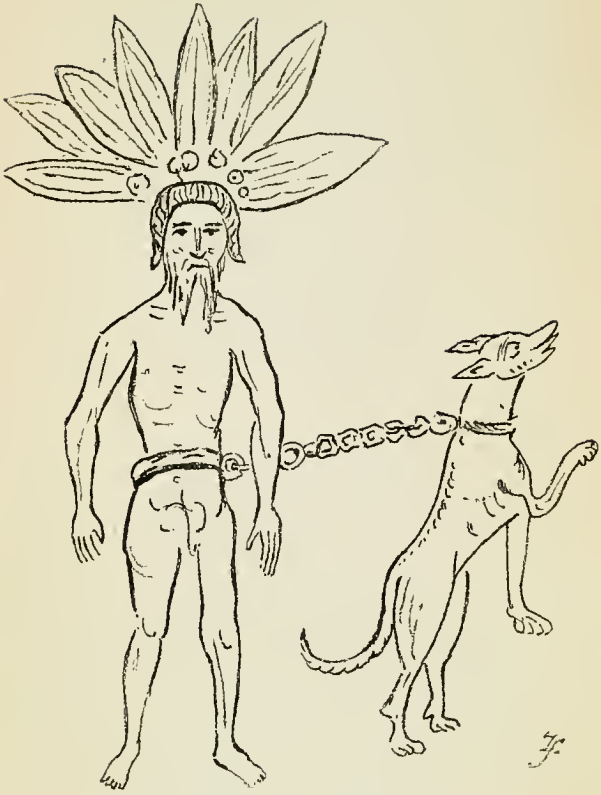
An early Egyptian anæsthetic

Mandragora as an Anæsthetic

That the early Greeks also used certain methods for deadening sensibility to pain is evidenced by several of the antient writers. Pindar states "Machaon eased the sufferings of Philoctetes with a narcotic potion." Theocritus also alludes to Lucina, the goddess of the obstetric art, as "pouring an insensibility to pain down all the limbs of a woman in the throes of labour." Aphrodite, to assuage her grief for the death of Adonis, is said to have thrown herself on a bed of lettuce and of mandragora.

The anæsthetics of antient Greece

There is no medicinal plant around which cluster more mysterious and quaint associations than mandragora. The Babylonians employed it more than 2000



GATHERING MANDRAGORA

From an MS. of the XII century

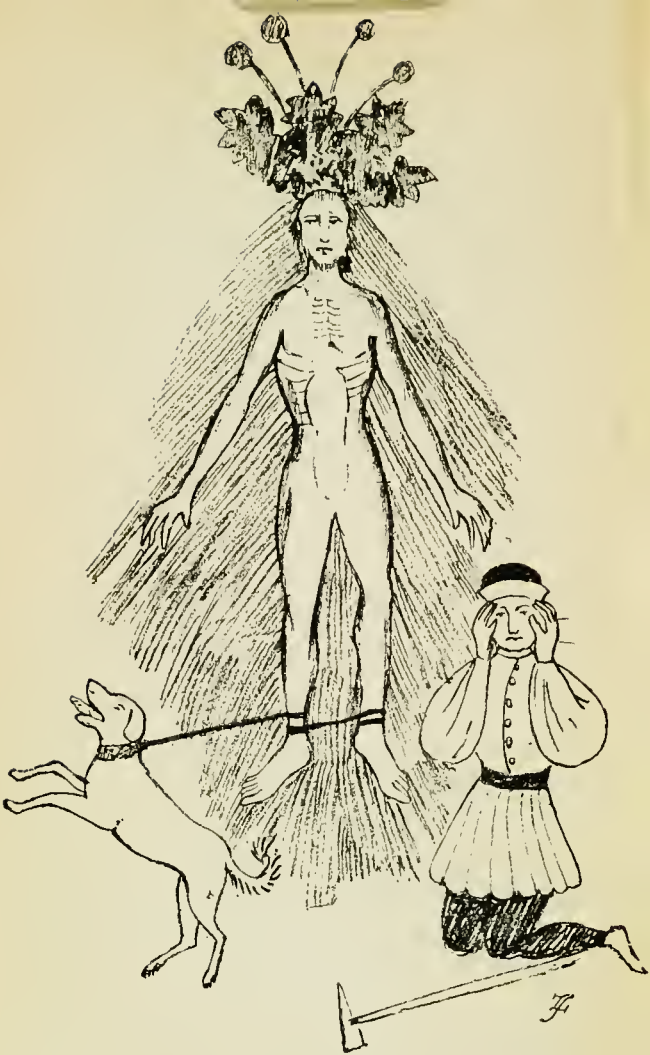
years B.C., and a figure cut from the root was used at that early period as a charm against sterility. It is probable that the ancient Hebrews also believed it to possess these properties, judging from the story of Rachael related in the book of Genesis. The early Egyptians employed mandragora, which they called the "phallus of the field," as a medicinal agent, both as an anodyne and an anæsthetic, and also used it in many of their superstitious rites.

Theophrastus is the earliest writer on botany to allude to the virtues of mandragora, among which he mentions its property of inducing sleep, and of its use as an aphrodisiac in love potions. The Greeks gave mandragora the name of "Circeum," derived from that of the witch Circe, and believed that an evil spirit dwelt in the plant; for, when uprooted, it was said to utter such frightful shrieks that no mortal man might hear them and live.

To prevent this catastrophe, it was usual in gathering the plant to take a dog and let him be sacrificed to the rage of the demon. This method is thus described by an antient writer:—"To gather ye mandragora, go forthe at dead of nyght and take a dogge or other animal and tye hym wyth a corde unto ye plante. Loose ye earth round about ye roote, then leave hym, for in hys struggles to free hymself he will teare up ye roote, whych by its dreadfull cryes wyll kyll ye animal."

Certain rites and ceremonies were sometimes performed before gathering the root, such as making three circles round it with a sword, and the earth being loosened with an ivory spade, while to drown the cries of the fatal herb a horn was sometimes blown by the gatherer.

According to an antient German legend the mandragora always grew with greater luxuriance beneath or near a gallows, for the flesh of the felons hanged thereon was believed to nourish the mysterious root in which the demon dwelt. Another legend current



GATHERING MANDRAGORA

From an MS. of the XIII century

"To gather ye mandragora, go forthe at dead of nyght and take a dogge or other animal and tye hym wyth a corde unto ye plante. Loose ye earth round about ye roote, then leave hym, for in hys struggles to free hymself he wyll teare up ye roote, which by its dreadfull cryes wyll kyll ye animal."

was, that the leaves of the plant sometimes glowed with a peculiar light at night.

The supposed likeness of the root to the human form gave rise to many of the superstitions connected with mandragora, and it was believed in early times that there were actually two distinct species, viz., male and female. These roots were often carved to resemble the human figure, and were worn as charms to ward off disease.

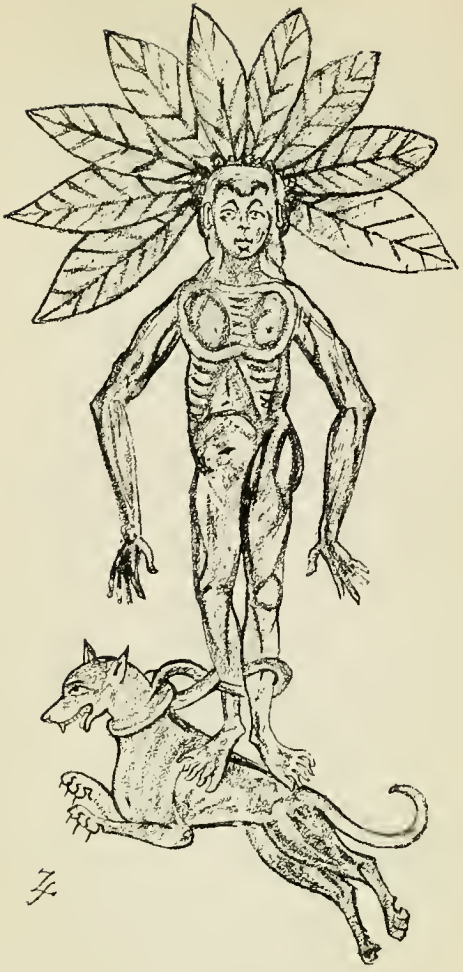
The first mention of mandragora (*Mandragora Atropa*, *L.*), as an anæsthetic, is made by Dioscorides (*ca.* A.D. 100), who evidently recognised the difference between the hypnotic and anæsthetic effects of the drug, from which one may assume that it was employed for both purposes in the medical practice of that day. Respecting the former, he states: "Eating which [mandragora] shepherds are made sleepy," and, referring to the latter property, he remarks that "three wine-glassfuls of a liquid preparation of the root are given to those who are about to be cut or burnt, for they do not feel the pain."

Mandragora as an anæsthetic

Of the preparations of mandragora, he gives the following: "There are those who boil the root in wine to a third part, and preserve the decoction, of which they give a cyathus [small glass] in want of sleep or severe pains in any part, and also before operations with the knife, or the actual cautery, that they may not be felt"; also "a wine is prepared from the bark of the root, without boiling, and three pounds of it are put in a cadus [eighteen gallons] of sweet wine; of this, three cyathi are given to those who require to be cut or cauterised, when, being thrown into a deep sleep, they do not feel any pain."

Dioscorides also refers to a substance called "morion," believed to be the white seed of the mandragora root, which is mentioned also by Pliny as a narcotic poison. "A drachm of it," he states, "taken in a draught, or in a cake or other food, causes infatuation, and takes away the use of the reason; the

"Morion," a Grecian anæsthetic



MANDRAGORA

From an MS. of the XV century

person sleeps without sense, in the attitude in which he ate it, for three or four hours afterwards. Physicians use it when they have to resort to cutting or burning."

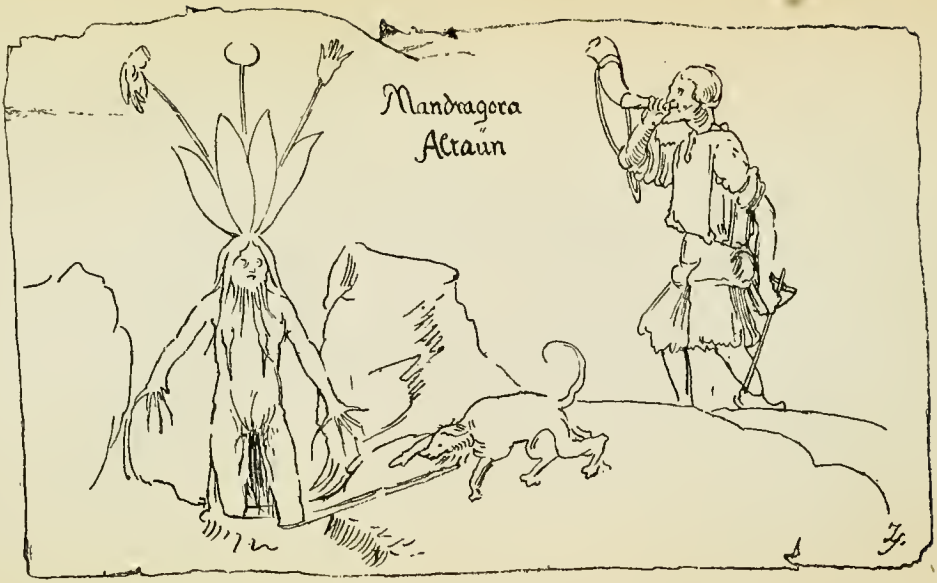
These allusions serve to prove how frequently anæsthesia was practised by the physicians of antient Greece, to whom the narcotic property of mandragora, which is allied to *Atropa Belladonna*, or deadly nightshade, was well known.

The younger Pliny (A.D. 32–79), in his "Natural History," also describes the use of mandragora as a narcotic, and gives preference to the use of the leaves over the root for that purpose. "The dose," he says, "is half a cyathus, taken against serpents, and before cuttings and puncturings, that they may not be felt." He further adds: "For these purposes it is sufficient for some persons to seek sleep from the smell," from which it is clear that this anæsthetic was also used by inhalation.

With reference to mandragora, Sir Benjamin Ward Richardson once prepared a draught according to one of the recipes given by Dioscorides, and took it. He tells us that "the phenomena repeated themselves with all faithfulness, and there can be no doubt that, in the absence of our now more convenient anæsthetics, "morion" might still be used with some measure of efficacy for general anæsthesia."

Further allusion is made to mandragora as a surgical anæsthetic by Apuleius in his "Liber de Herbis," in which he says: "If anyone is to have a limb mutilated, burnt, or sawn, he may drink half an ounce of mandragora with wine; and while he sleeps the member may be cut off without any pain or sense."

Avicenna, the Father of Arabian medicine, gives special directions as to the employment of mandragora, both as an anæsthetic and a hypnotic; while Averrhöes, another Arabian physician, refers to the soporific effects of the fruit of the same plant. Galen also alludes to its powers to paralyse sensation, and Paulus Ægineta states: "Its apples are narcotic, when



GATHERING MANDRAGORA

From a drawing of the XVI century

The plant is being uprooted by the struggling dog, while a horn is blown to drown the cries of the fatal herb

smelled to, and also their juice, that if persisted in they will deprive the person of his speech." According to Isidorus, "a wine of the bark is given to those about to undergo operations, that, being asleep, they feel no pain"; and Serapion confirms this statement in his works.

Evidence of the practice of surgical anæsthesia is to be found in the writings of several physicians during the time of the Roman Empire. It is probable that the practice came to them from the Greek school, for mandragora, which they almost invariably used, grew largely in the Grecian Archipelago. Celsus recommends a pillow of mandragora apples to induce sleep.

Anæsthesia in Roman times

Hindu Anæsthetics

From ancient records it appears probable, that the Hindus inhaled the fumes of burning Indian hemp as an anæsthetic at a period of great antiquity. As early as the year 977 they also knew of other drugs which they employed for the same purpose.

Pandit Ballala describes an interesting surgical operation which was performed on King Bhoja at that period. The patient was suffering from severe pain in the head, and, his condition becoming critical, two brother-physicians happened to arrive in Dhar, who, after carefully considering the case, came to the conclusion that a surgical operation was necessary to give relief. They are said to have administered to him a drug called *sammohini* to render him insensible, and while he was completely under its influence they trepanned his skull and removed the real cause of the complaint. They closed the opening, stitched up the wound, and applied a healing balm.

After the operation they are said to have administered to the King a drug called *sanjivini* to accelerate the return of consciousness and to minimise the chances of death.

An antient Chinese anæsthetic

It is recorded that "a Chinese physician named Hoa-Tho, who lived about A.D. 220 or 230, was accustomed to administer to his patients on whom he wished to perform painful operations, a preparation called 'Ma-yo' (Indian hemp, probably), the effect of which was that, after a few moments, they became insensible as if they were deprived of life."

From very early times the fumes of burning lycoperdon *(Lycoperdon gygantum)* have been used for stupefying bees before taking honey from the hive.

From the many allusions we have quoted from writers in the early ages, it is evident that mandragora and Indian hemp were the two drugs which were more or less in general use as anæsthetics in antient times.

Anæsthetics in the Middle Ages

An early Irish anæsthetic

In a Celtic manuscript of the twelfth century on materia medica, a preparation called "potu oblivionis" is mentioned, of which mandragora was probably an ingredient. A draught of this preparation was used by the early Irish to induce sleep.

Coming to the fifteenth century, the method of producing insensibility to pain by the inhalation of the volatile principles of drugs, which had been handed down by tradition from the early ages, seems to have been revived by Hugo of Lucca, a Tuscan physician. He is described as "chief of a school of surgeons that treated wounds with wine, oakum and bandaging, with happy success." Theodoric, his son, who was a monk-physician, and practised surgery, mentions, in 1490, a preparation used by his father which he calls "oleum de lateribus." This he describes as "a most powerful caustic, and a soporific which, by means of smelling alone, could put patients to sleep on occasion of painful operations which they were to suffer." The mixture was

The "Sleeping Sponge"

placed on a sponge in hot water, and then applied to the nostrils of the patient, and was called the "spongia somnifera." The following is the composition of the "sleeping sponge" and the method of using, as stated by Theodoric: "Take of opium, of the juice of the unripe mulberry, of hyoscyamus, of the juice of hemlock, of the juice of the leaves of mandragora, of the juice of the woody ivy, of the juice of the forest mulberry, of the seeds of lettuce, of the seeds of dock, which has large round apples, and of the water-hemlock, each an ounce: mix all these in a brazen vessel, and then place in it a new sponge; let the whole boil as long as the sun lasts on the dog-days, until the sponge consumes it all, and has boiled away in it. . . . As oft as there shall be need of it, place this sponge in hot water for an hour, and let it be applied to the nostrils of him who is to be operated on until he has fallen asleep, and so let the surgery be performed."

Method of using the "Sleeping Sponge"

According to Bodin, the sleep produced was so profound that the patient often continued in that condition for several days afterwards. The method of arousing the patient employed by Hugo, however, is thus described: "In order to awaken him, apply another sponge, dipped in vinegar, frequently to the nose, or throw the juice of fenugreek into the nostrils; shortly he awakens."

According to Canappe, in his work "Le Gyidon pour les Barbiers et les Chirurgiens," published in 1538, the "Confectio soporis secundum dominum Hugonem" was used by surgeons at that period.

Reginald Scott, in a work written in the sixteenth century, gives the following recipe for making an anæsthetic: "Take of opium, mandragora bark and henbane root, equal parts; pound them together, and mix with water. When you want to sew or cut a man, dip a rag in this, and put it to his forehead and nostrils. He will soon sleep so deeply that you



A Surgeon Amputating a Leg

From a woodcut of the XVI century

may do what you will. To wake him up, dip the rag in strong vinegar. The same is excellent in brain-fever, when the patient cannot sleep; for if he cannot sleep, he will die."

Anæsthesia in romance

The writers and poets of mediæval romance in more than one instance allude to anæsthesia produced by drugs. Boccaccio, who wrote his "Decameron" in 1352, in the story of Dionius, alludes to a certain anæsthetic liquid of Surgeon Mazzeo della Montagna, of Salerno. "The doctor," he says, "supposing that the patient would never be able to endure the pain without a soporific, deferred the operation until the evening, and in the meantime ordered the water to be distilled from a certain composition, which being drunk, would throw a person asleep as long as he judged it necessary." Boccaccio, probably, borrowed his idea from the recipe given by Nichols, a provost of the famous old school of Salerno, who published a recipe for making an anæsthetic, similar to that of Reginald Scott.

In Brooke's "Tragicall Historye of Romeus and Julietta," printed in 1562, which supplied Shakespeare with the plot and much material for his play "Romeo and Juliet," Friar Laurence thus speaks to Julietta: "I have learned and proved of long time the composition of a certain paste which I make of divers somniferous simples, which beated afterwards to powdere, and dronke with a quantitie of water, within a quarter of an houre after, bringeth the receiver into such a sleepe, and burieth so deeply the senses and other spirits of life that the cunningest phistian will judge the party died."

"And, besides that, it hath a more marvellous effect, for the person which useth the same feeleth no kind of grief and, according to the quantitie of the draught, the patient remaineth in a sweete sleepe; but when the operation is perfect and done, he returneth unto his first estate."



A Surgeon Amputating a Leg

From a woodcut of the XVI century

Shakespeare's references to mandragora, poppy and other "drowsy syrups," are too well-known to need quotation; but the following allusion by Middleton, in his play called "Women beware Women!" is not without interest:—

> I'll imitate the pities of old surgeons
> To this lost limb, who, ere they show their art,
> Cast one asleep, then cut the diseased part.

William Bulleyn, the author of "A Bulwark of Defence against Sickness," who practised as a surgeon in the reign of Henry VIII, describes an anæsthetic which he directs to be prepared from the juice of a certain herb (probably mandragora) "pressed forth, and kept in a closed earthen vessel according to art, bringeth deep sleep, and casteth man into a trance, or deep terrible sleep, until he shall be cut of the stone."

Allusions to anæsthesia by antient poets

The poet Marlowe thus refers to mandragora in his play "The Jew of Malta":—

Barabas:

> I drank of poppy and cold mandrake juice,
> And being asleep, belike they thought me dead,
> And threw me o'er the walls.

Du Bartas, as translated by Sylvester in 1592, makes the following allusion to anæsthesia:—

> Even as a surgeon minding off to cut
> Som cureless limb; before in use he put
> His violent engins in the victim's member,
> Bringeth his patient in a senseless slumber:
> And griefless then (guided by use and art)
> To save the whole, saws off the infested part.

Porta, writing in 1579, says: "It is possible to extract from several soporific plants a quintessence, which is to be shut up in a well-covered leaden vessel, lest the drug should evaporate. When it is to be used, the lid is to be removed and the medicament held to the nostrils, when its vapour will be drawn in by the breath and attack the citadel of the senses, so that the patient will be sunk in a deeper sleep not to be shook off without much labour."



A Surgeon Performing an Operation on the Eye

From a woodcut of the XVII century

Besides mandragora, opium, Indian hemp, and other plants with narcotic properties already referred to, that were used for anæsthetic purposes in mediæval times, certain substances are mentioned by early writers that cannot be identified. Thus Albertus Magnus mentions an animal product, of which he says: "Any person smelling it falls down as if dead and insensible to pain," but there is no reference to such a drug by other writers of the period.

Local anæsthesia was not unknown during the middle ages, and Cardow recommends the inunction of a mixture consisting of "opium, celandine, saffron, and the marrow and fat of man, together with oil of lizards." He also adds: "If the patient drinks wine in which the seeds of the patulica marina have been steeped for a week it will prevent him feeling any pain."

Local anæsthetics in antient times

Bernard mentions that it was customary in Salerno to mix the crushed seeds of poppy and henbane, and apply them as a plaster, to deaden sensibility, to parts that were about to be cauterised; while Bartolinus states that local anæsthesia was sometimes produced by freezing, thereby foreshadowing the use of ether and ethyl chloride as local anæsthetics.

First mention of freezing as an anæsthetic

During the seventeenth century the belief in the narcotic draughts of the antients for producing anæsthesia appears to have waned, and few allusions are made to them until the middle of the eighteenth century, when fresh interest seems to have been excited in the subject. The famous Boerhaave is said to have used opium as an anæsthetic, both hy inhalation of its vapour and also by internal administration in powder. According to Van Swieten, in his commentaries upon Boerhaave's "Aphorisms," the following is given as the recipe: "Oil of cinnamon, 2 drops; oil of cloves, 1 drop; citron peel, 2 grains; sugar, 2 drachms. Mix and add red coral, prepared, 1 drachm; pure opium, 2 grains. Mix for two doses, one of which

Boerhaave's anæsthetic



AN OPERATION IN THE SEVENTEENTH CENTURY
From a painting by Franz Hals

is to be taken one hour before the operation, and the other one quarter hour before it, if the patient has not slept."

In 1782, Weiss is said to have operated on the foot of Augustus, King of Poland, having previously placed the royal patient under the influence of "a certain potion surreptitiously administered." Shortly afterwards Sassard, a surgeon of La Charité, in Paris, suggested that patients who were about to be operated upon should be drugged with narcotics as a means of preventing shock. That this method was sometimes practised is evidenced from a chapter in "Bell's Surgery," where the author not only refers to it but objects to the method on account of the sickness and vomiting it produced.

An operation on the King of Poland

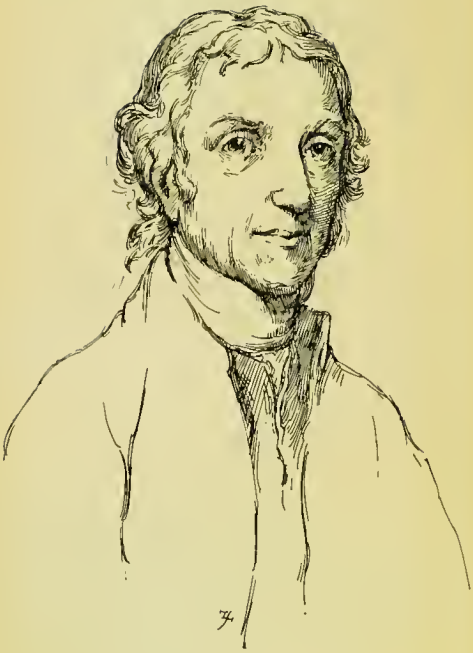
As late as 1847, Chisholm, of Inverness, recorded his use of a drug given internally to produce anæsthesia for surgical purposes; he substituted the internal use of morphine for ether inhalation in a case of ablation of the breast successfully performed upon a woman, who declared that she felt no pain during the operation.

Other means of producing insensibility were suggested in the eighteenth century, and the antient method of compressing the carotid arteries was revived. This method had been used by Valverdi about 1560, and Morgagni employed it about 1750 in his experiments on animals, and suggested that it might be used on human beings. Compression of the nerves of the limb about to be removed, was also proposed, by James Moore in 1784, and tried by Hunter and others, but the results could not be regarded as successful.

Anæsthesia by compression of the carotid arteries revived

Surgical operations at this time meant periods of agonising pain, and the stoutest hearts often quailed at the prospect. It is said that Lord Nelson was so painfully affected by the coldness of the operator's knife when his right arm was amputated at Teneriffe, that at the Battle of the Nile he gave orders to his surgeon to have hot

Nelson's arm amputated



JOSEPH PRIESTLEY

water kept ready, so that at the worst he might be operated upon with a warm knife.

Thus from the dawn of creation anæsthesia for surgical operations had been practised to some extent, but owing to the uncertainty of the potency and action of the powerful narcotics and palliatives administered, and the danger attending their use when exact science was unknown, the practice seemed likely to fall into oblivion. At last a series of brilliant discoveries in chemistry created a new epoch in the history of anæsthesia.

The dawn of a new era

The Chemical Era of Anæsthetics

The discoveries of Priestley about 1767 led up to the plan of administering gases and vapours of definite composition by inhalation through the lungs, and directly he had demonstrated the existence of "vital air," or oxygen, the properties of this body were tested in the hope of great results in the art of medicine. Priestley's experiments concerning the inhalation of oxygen were in time followed by those of Beddoes, who recommended the inhalation of oxygen, hydrogen and other gases in the treatment of disease. It seemed only natural that experiments with other gases and vapours by inhalation should follow. Pearson, of Birmingham, administered ether in this way in 1795 for the relief of consumption, and ten years afterwards Warren, of Boscombe, employed ethereal inhalation to relieve the sufferings attending the later stages of phthisis.

Priestley's discoveries

Priestley's discoveries of the method of liberating and collecting gases, and his demonstrations that certain gases could be absorbed and compressed in water, led to the introduction of aërated waters—carbonic acid gas being the first to be employed.

In the course of time, nitrous oxide, which had been discovered by Priestley in 1776, was compressed



Sir Humphry Davy

in water, and came into general use as a medicinal agent.

In 1798, a Medical Pneumatic Institution was established at Bristol by the exertions of Beddoes and others, and Humphry Davy was appointed superintendent. It was here that he commenced and carried on his notable researches on nitrous oxide. In one of his experiments he constructed a box or chamber in which he inhaled the gas in measured quantities. One day, in the year 1799, when suffering from toothache or inflammation of the gums, he resorted to the inhalation of the gas, and discovered to his great delight that it relieved the pain, which led him to the conclusion he expresses in the following words in "Researches Chemical and Philosophical," 1800: "As nitrous oxide in its extensive operation seems capable of destroying physical pain, it may probably be used with advantage during surgical operations in which no great effusion of blood takes place."

Anæsthetic properties of nitrous oxide

About 1806, Woolcombe, of Plymouth, prescribed for Lady Martin, a patient suffering from asthma, the inhalation of sulphuric ether to relieve the attacks. Lady Martin found the inhalation gradually caused her to become unconscious, from which state she would recover in a short time, with the result that the paroxysm of dyspnœa had disappeared. But the teaching of this case, and even the more explicit account of Humphry Davy, was overlooked; and no further development occurred until the year 1818, when Faraday pointed out, in "The Quarterly Journal of Science and Arts," that the inhalation of the vapour of sulphuric ether produced effects similar to those caused by nitrous oxide.

Faraday points out similarity in the effects of nitrous oxide and sulphuric ether

About this time Professor Thompson, of Glasgow, was accustomed annually to amuse his students by allowing them to inhale ether and nitrous oxide until they were intoxicated, and occasionally became unconscious, when it was noticed that they were insensible to the

prick of a pin, or a blow. In these cases the gas or ether was inhaled from a bladder. Two drachms of rectified and washed ether were poured into a bladder and allowed to diffuse. Then the mixture of air and ether vapour was breathed, the expired air being allowed to enter the bladder also. Curiously enough, very little improvement has been made on this method of administration at the present day.

It is an extraordinary fact that, even in the face of such experiments as those we have referred to, no one among the investigators who stood at this time on the brink of so great a discovery ventured over the threshold. It is almost inconceivable in these days to realise, that for thirty-nine years these substances were used for experimental purposes, and even for amusement, without a realisation of the great blessing to humanity that lay almost within grasp. The things that are apparently most plain may lie longest buried; so with the discovery of efficient anæsthesia, which even then developed in an indirect manner.

On the brink of the discovery

Mesmerism as an Anæsthetic

From the earliest ages the apparent power of some men to influence the minds and bodies of others has been known. Certain diseases were said to be affected by the touch of the hand of certain persons, who were supposed to communicate a healing virtue to the sufferer, and these practices were often connected with religious and magical rites. This method of healing was practised in antient times by the Chaldæans, Babylonians, Egyptians, Persians, Hindus, Greeks and Romans. Their priest-physicians are said to have effected cures and to have thrown people into deep sleep in the precincts of the temples. Such influences were at that time held to be due to supernatural power, a belief which was no doubt fostered by the priesthood. In the middle of the seventeenth century an Irishman named Valentine

Mesmerism in antient times

Greatrakes aroused great interest in England by his supposed power of being able to cure scrofula by stroking the patient with his hand. Most of the distinguished scientific men of the day, such as Sir Robert Boyle, witnessed and attested his cures, and thousands of sufferers crowded to him from all parts of the country. Since his time other men have come forward with similar claims, notably one Gassner, a Roman Catholic priest of Swabia, who in the early part of the eighteenth century attracted attention by stating that he could cure the majority of diseases by exorcism. His method had an extraordinary influence over the nervous systems of his patients, who in the end generally confessed themselves cured.

Healing by "stroking"

In 1766, Mesmer, who was a pupil of Hehl, professor of astronomy at Vienna, and an advocate of the efficacy of the magnet for the cure of disease, met Gassner, and observed that the priest effected cures without the use of magnets and by manipulation alone. This led him to believe that some kind of occult force resided in himself, by means of which he could influence others. He held that this force permeated the universe, and more especially affected the nervous systems of men. In 1778, he removed to Paris, and shortly afterwards the French capital was thrown into a state of great excitement by the fact that human beings could be placed in a state of artificial sleep or trance, which was then called "mesmerism."

Mesmer's experiments

Mesmer's disciples claimed that even painful operations could be performed on patients in this condition without consciousness of pain.

Braid, who made a further investigation of the subject, dissented from the mesmerists as to the cause of the phenomenon, and called the condition "hypnotism." In 1846, the Deputy-Governor of Bengal appointed a committee to observe and report on the surgical operations

Braid's researches on hypnotism

that were then being performed in India by Esdaile upon his patients, while under the influence of alleged mesmeric agency. The Committee reported on various experiments carried out under their observation, some of which had apparently been performed with great success. But from further investigation it was apparent that the method was uncertain, and success seemed to be due to the peculiar susceptibility of the patient operated upon. These experiments are worth recording, as they indirectly led to the practice of administering certain vapours to produce anæsthesia.

Esdaile operates on hypnotised patients

One of the pioneers in the practice of inhalation was Robert H. Collier, who was a believer in mesmerism. In 1835 he was present at a lecture given by Dr. Turner, Professor of Chemistry at University College, London, and in the course of some experiments in the inhalation of ether was himself rendered unconscious, and also observed that his fellow-students who had inhaled it were insensible to pain. Four years later he went to America, and while visiting his father's estate near New Orleans, he was called to one of the negroes who had become insensible by inhaling fumes from a vat of rum, and who, in falling, had dislocated his hip. Finding the muscles flaccid, Collier reduced the dislocation without exciting the least sensation of pain in the patient. A little later he performed two operations upon patients while under mesmeric influence, with apparent success. These facts led him to connect the phenomenon of mesmerism with narcotism produced by inhalation, and in 1840 he commenced a lecturing tour throughout America on the subject. Three years later he returned to this country, and at Liverpool, where he landed, gave his first lecture, which he illustrated by experiments in mesmerism, and also showed the possibility of rendering a subject unconscious by the fumes of alcohol in which poppy-heads and coriander had been macerated. The theory he advanced, and attempted to prove

Robert Collier one of the first pioneers



HORACE WELLS



"A New Era in Tooth-Pulling"

The first dental operation performed on Horace Wells while under the influence of nitrous oxide gas

throughout, was that the so-called mesmeric influence was identical in action with that of narcotic vapours.

He claimed to have administered the fumes of his alcoholic mixture to a Mrs. Allen, of Philadelphia, in 1842, and while under its influence he extracted a tooth without causing her pain. Collier's lectures excited general attention at the time, and there is little doubt that they gave a fresh impetus to research on the subject of anæsthesia by inhalation. He must, therefore, be regarded as an important pioneer, who, had he given up his ideas of mesmerism and proceeded systematically with his plan of making the body insensible by inhaling the vapour of alcohol, would have had no one to dispute with him in priority.

Uses his alcoholic mixture as an anæsthetic in 1842

The Nitrous Oxide Era

Although, as already stated, Humphry Davy had discovered the anæsthetic properties of nitrous oxide as far back as the year 1800, forty-four years elapsed before his idea was put into practical use.

On December 11th, 1844, Dr. G. Q. Colton, a well-known lecturer on popular scientific subjects in America, and a pupil of Professor Turner, of London, delivered a lecture at Hartford, Connecticut, during which he gave a demonstration of the action of nitrous oxide gas. Horace Wells, a dentist, then in practice in the same town, formed one of the audience.

Colton lectures on nitrous oxide

Among the persons who were invited by the lecturer to inhale the gas for the amusement of the audience was a man named Cooley, who wounded himself severely by falling against the benches, and only became aware of the fact when he saw the blood. Wells was greatly struck by this incident, and he determined to test the anæsthetic effects of the gas upon himself the next day by having a decayed upper molar extracted

Wells makes his historic experiment

while under its influence. After the lecture he asked Dr. Colton if he would come to his house and administer the gas to him; and on receiving his promise he induced a Dr. Riggs to be the operator.

The historic event is described by the latter as follows: "A few minutes after I went in, and, after conversation, Dr. Wells took a seat in the operating chair. I examined the tooth to be extracted, with a glass, as I usually do. Wells took a bag of gas from Mr. Colton and sat with it in his lap, and I stood by his side; he then breathed the gas until he was much affected by it: his head dropped back, I put my hand to his chin, he opened his mouth, and I extracted the tooth. His mouth still remained open some time. I held up the tooth with the instrument that the others might see it; they, standing partially behind the screen, were looking on. Dr. Wells soon recovered from the influence of the gas so as to know what he was about, discharged the blood from his mouth, and said, 'A new era in tooth-pulling!' He said it did not hurt him at all. We were all much elated, and conversed about it for an hour later."

"A new era in tooth-pulling"

After this Wells extracted several teeth from his patients under nitrous oxide gas with equal success, and then went to Boston in order to make his discovery known to the medical profession in that city. He remained there some days in the hope of being allowed to try the gas in a case of amputation in the Massachusetts General Hospital, but the experiment was postponed. Dr. Warren, senior surgeon to the institution, however, invited him to address his class on the subject of anæsthesia, after which he was asked to administer the gas in a case of tooth extraction. He was assisted on this occasion by Morton, a Boston dentist who had been his pupil, and afterwards, for a time, his partner. The experiment, as Wells himself confesses, was not quite a success, the gas-bag having been removed too soon. The whole thing was



MICHAEL FARADAY



CHARLES T. JACKSON

denounced as a piece of humbug, and Wells was hissed out of the room as an impostor.

Disheartened at length by the failure of his repeated attempts to establish his claims to priority as the discoverer of anæsthesia, his mind appeared to become affected, and for a time he wandered about the streets of New York. On January 4th, 1848, he was arrested and charged with throwing vitriol, but while in gaol he opened his radial artery, having first inhaled ether to make death painless. This sad event closed, at the age of thirty-two, the career of Horace Wells, to whom at least belongs the credit of having first shown the practicability of producing insensibility by nitrous oxide, and of having thus, in his own words, "established the principle of anæsthesia."

Wells disheartened by failure

The death of Horace Wells

The Ether Epoch

Probably the first published account of the use of ether as a medicinal agent was made by Morris in a letter read before the Society of Physicians in London,* on December 18th, 1758, in which he advocates its use internally, and also as an external application.

In 1818, Faraday, as already stated, had called attention to the anæsthetic properties of ether, and showed that the vapour of sulphuric ether, when inhaled, produced effects similar to those of nitrous oxide. After Wells' failure at Boston nothing further seems to have been done for a time to investigate the use of nitrous oxide as an anæsthetic.

In 1842, Crawford W. Long, of Georgia, is said to have removed a small encysted tumour, and subsequently to have performed one or two minor operations, while his patients were under the influence of ether, but he admits that

Long's claim

* "Med. Obs. and Enq." by the Society of Physicians in London, vol. 2, page 176, 1764.

he considered ether impracticable, owing to the shortness of the anæsthetic state, and he therefore abandoned it.

A more brilliant discovery, however, was pending. W. T. G. Morton, who had been in partnership with Wells and assisted him in the unfortunate experiment in Boston, directed his attention to the finding of a more suitable anæsthetic for painless operations in dental surgery. After many unsuccessful attempts with various narcotics, Charles T. Jackson, a chemist of Boston, whose pupil he had been, suggested that he should try sulphuric ether, the properties of which had been known for so long, yet which no one previously appears to have thought of using as an anæsthetic in surgical operations.

Morton's experiments with ether

It was about the end of September, 1846, that Jackson states he informed Morton that he had experimented on himself by inhaling ether on a folded towel. He found that he lost all power over himself, and fell back in his chair in a state of curious sleep. Morton, however, tells another story, and relates how, having procured some chemically pure ether on September 30th, 1846, he shut himself in a room alone and inhaled the vapour. He states: "I found the ether so strong that it partly suffocated me, but produced no decided effect. I then saturated my handkerchief and inhaled it from that. I looked at my watch and soon lost consciousness. As I recovered I felt a numbness in my limbs, and a sensation like nightmare. I thought for a moment I should die in that state, but at length I felt a slight tingling of the blood in the end of my third finger, and made an effort to press it with my thumb, but without success. At the second effort I touched it, but there seemed to be no sensation. I attempted to rise from my chair, but fell back, and looked immediately at my watch and found that I had been insensible between seven and eight minutes."

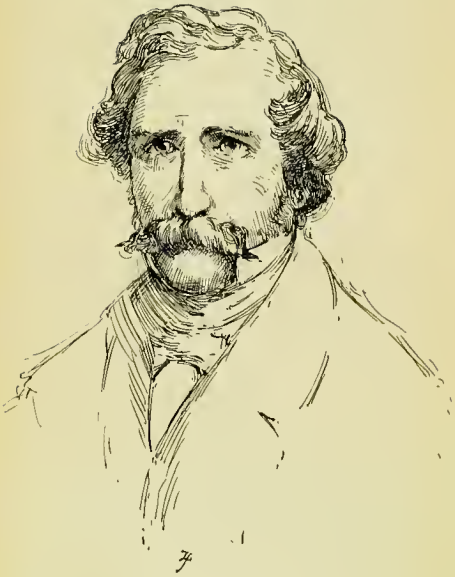
Jackson's story

The First Dental Operation under Ether

Morton soon had an opportunity of making a practical experiment with the anæsthetic, for the same evening, about nine o'clock, a man named E. H. Frost called upon him suffering from a violent attack of toothache. "Can't you mesmerise me?" asked the sufferer. "Upon which," says Morton, "I told him that I had something better than mesmerism by means of which I could take out his tooth without giving him pain. He gladly consented, and saturating my handkerchief with ether, I gave it to him to inhale. He became unconscious almost immediately. It was dark, and Dr. Hayden held the lamp. My assistants were trembling with excitement, apprehending the usual prolonged scream from the patient while I extracted a firmly-rooted bicuspid tooth. I was so agitated that I came near throwing the instrument out of the window. But now came a terrible reaction. The wrenching of the tooth had failed to rouse him in the slightest degree. I seized a glass of water, and dashed it in the man's face. The result proved most happy. He recovered in a minute, and knew nothing of what had occurred."

Morton next appealed to Dr. John C. Warren, who was then Senior Surgeon at the Massachusetts General Hospital, and obtained permission to test his new anæsthetic on a patient about to undergo a surgical operation. The date fixed was Friday, October 16th, 1846, and at the appointed time a large number of medical men had assembled in the theatre. Morton administered the anæsthetic successfully, and the operation, which was for a congenital vascular tumour of the neck, in a young man named Gilbert Abbot, was completed in about five minutes without a groan from the patient. When it was finished, Dr. Warren exclaimed: "Gentlemen, this is no humbug!" The interest excited among those who witnessed the operation was naturally very great,

First surgical operation under ether



W. T. G. Morton

and Dr. Henry J. Bigelow, who was present, said to a friend whom he met later in the day: "I have seen something to-day that will go round the world!" His prophecy proved correct.

Up to this time Morton had not disclosed the nature of the agent he employed, and nothing more was done until November 7th, when he expressed his willingness to reveal the secret. On this date two major operations were performed under ether, one by Dr. Hayward and the other by Dr. Warren.

From this time ether took its place as a general anæsthetic, and the practice of anæsthesia was firmly established.

Soon after the memorable 16th of October, a meeting was held in Boston, to choose a name for the new anæsthetic agent, and the word "letheon" was chosen by Morton himself; but, subsequently, Dr. Oliver Wendell Holmes suggested the name "anæsthesia" for the condition, and "anæsthetic" for the agent, which names have since come into general use.

The origin of the words "anæsthesia" and "anæsthetic"

Although it has never been very clearly established whether Morton or Jackson was the prime originator of the use of ether as an anæsthetic, the former was recognised by the United States Government as the discoverer, and received from it a handsome award. It seems most probable that Jackson supplied the inspiration, while Morton practically demonstrated it.

In reviewing the steps which led up to the discovery, it must not be forgotten that both Morton and Jackson were after all but followers of Collier, who first rendered himself unconscious with ether in the laboratory of University College, London, and forged one of the most important links in the chain of development.

Morton spent most of the remainder of his life in disputes about priority, and in efforts to secure recognition. He died bankrupt and broken-hearted on

July 15th, 1868, before he had completed his forty-ninth year.

Curiously enough, Jackson, like Wells, became insane, and died in an asylum in 1880. When the friends of the rival claimants of the discovery of anæsthesia were proposing that monuments should be erected to each, Oliver Wendell Holmes characteristically suggested that all should unite in erecting a single memorial, with a central group symbolizing painless surgery, a statue of Jackson on one side, a statue of Morton on the other, and the inscription underneath:—

TO E(I)THER

The news of the "ether process for removing pain," as it was then called, spread rapidly. A private letter from Dr. J. Bigelow to Dr. Francis Boote, of Gower Street, carried the first news to England, and was communicated to the medical profession in London on December 17th, 1846. Two days later, Mr. James Robinson, a dentist, of Gower Street, performed the first dental operation under ether in England, the patient being a Miss Lonsdale, and the operation the extraction of a firm molar tooth.

First surgical operation under ether in Great Britain

On December 21st the first surgical operation under the new anæsthetic in England was performed by Robert Liston, in University College Hospital, London. In the operating theatre, thronged with students, were the late Sir John Erichsen, the present Lord Lister, and many other famous surgeons. Mr. Barton relates an amusing incident which happened prior to the operation. Before the patient was brought in, the anæsthetist asked the students who crowded the benches in the theatre from floor to ceiling for some volunteer who would submit himself to be anæsthetised. A young man, Sheldrake, of very powerful build and a good boxer, at once offered to take the new anæsthetic, and came into the arena. "He lay on the table, and the

anæsthetist proceeded to administer the ether. After the administration had proceeded for about half a minute, the subject of the experiment suddenly sprang up and felled the anæsthetist with a blow, and sweeping aside the assistants in the arena, sprang shouting up the benches, scattering the students, who fled like sheep before a dog. He fell at the top bench, where he was seized and held down till he regained his senses. The whole scene hardly occupied a minute."

Before operating, Liston addressed a few words to those present as to the nature of the experiment about to be tried. The ether was administered by Mr. William Squire in an apparatus he had devised, which consisted of a large bell-shaped receiver containing the ether, to which was attached a long tube and mouth-piece. The patient, a middle-aged man, who was suffering from malignant disease of the skin and tissues of the calf of the leg, for which amputation of the thigh was deemed necessary, passed easily into complete insensibility, and Liston rapidly removed the thigh, the cutting operation being declared to have lasted only thirty-two seconds. In a few moments the patient completely recovered consciousness, and apparently did not know that the limb was off. When the towel was removed from the uplifted stump so that he could see it, he burst into tears and fell back on his pillow. Both surgeon and patient were much affected, and the scene in the theatre was most impressive. All appeared to see what an incalculable boon was in store for the human race, and Liston could scarcely command his voice sufficiently to speak.

New method of administration

Some amusing stories are related of Liston, who was a very big, powerful man. His fine physique was often useful in the pre-anæsthetic days, when a patient's nerve gave way at the last moment at the sight of the crowded theatre and the operating-table with its straps. It is said that on one occasion a patient, losing his courage at the last

A story of Liston

moment, rushed shrieking down the long corridor of the hospital, with Liston at his heels. The man locked himself in a room, but the surgeon with his shoulder broke in the door, and half-dragged, half-carried the poor wretch back to the operating theatre, where the operation for stone was successfully performed.

The practice of using ether was soon followed in other hospitals, and not only medical men but distinguished laymen crowded to witness its use.

First surgical operation under ether in Scotland

In Scotland, Dr. Moses Buchanan, Professor of Anatomy in Anderson's University, was the first to have news of the event, and immediately after his lecture that day he experimented with ether inhalation. On the following day, in the operating theatre of Glasgow Royal Infirmary, a patient was placed under the anæsthetic and successfully operated on for fistula. So rapidly, indeed, did the practice spread from one centre to another, that by the end of the first quarter of 1847 the use of the new anæsthetic may be said to have become general in all operation cases.

The value of ether in midwifery practice still remained to be proved, and Sir James Simpson was the first to suggest and test its use in this department.

Simpson proves value of ether in midwifery

On January 9th, 1847, he first administered ether to a patient in order to facilitate the operation of turning. The result, he reported, was most satisfactory and important, for it at once afforded evidence of the one great fact upon which the whole of the practice of anæsthesia in midwifery is founded, viz., that though the physical sufferings of the patient could be relieved by the inhalation of ether, yet the muscular contractions of the uterus were not interfered with.

The Discovery of Chloroform as an Anæsthetic

The next epoch-making event in the history of anæsthesia was the discovery of the anæsthetic

properties of chloroform. The substance itself had been known for over a quarter of a century. Thomson, in his "System of Chemistry," 1820, describes a liquid which is formed by the union of chlorine and olefiant gas, called "Dutch liquid," or chloric ether. Early in the year 1831, Samuel Guthrie of Brimfield, Massachusetts, who was then residing in Sackett's Harbour, New York State, in consequence of a statement that he had read that the alcoholic solution of this chloric ether was useful in medicine as a diffusible stimulant, devised an easy method of preparing it. This being done, he wrote an article which he entitled "A Spirituous Solution of Chloric Ether," and forwarded it to the editor of the "American Journal of Science and Art," in which it was published in October of the same year. In this article he fully describes his method of preparation. A few months later, in January, 1832, Soubeiran published a paper in a French journal stating that he had discovered this method in 1831, and to the distilled fluid he produced he had given the name of "bichloric ether," the formula being CHCl. Still a third claimant to the discovery came forward in the person of Liebig, who published his account in November, 1831, six months after Guthrie's manuscript was in the publisher's hands, and one month after its publication. The formula which Liebig deducted from his analysis was C_4Cl_5, and he called his product "chloride of carbon." Although there may be some doubt as to which of these claimants was actually the first to manufacture the liquid, it is clear that Guthrie was the first to publish the account of the discovery. He was born in 1782, was a surgeon in the United States Army in 1812, and died in 1848.

From an account given by D. B. Smith, of Philadelphia, in the "Journal of the College of Pharmacy"* in 1832, there can be little doubt that the liquid first made by Guthrie was a fairly pure chloroform. He describes

* Now the "American Journal of Pharmacy"



DAVID WALDIE

it in the following words: "The action of this ether on the living system is interesting, and may hereafter render it an object of importance in commerce. Its flavour is delicious, and its intoxicating properties equal to or surpassing those of alcohol." In 1834, Dumas examined the liquid as prepared by Soubeiran, and declared that he had not obtained it pure, and further, that Liebig had made an error in its composition. On further research, Dumas gave the liquid the name of "chloroform," and first worked out the real formula, C_2HCl_3 (or, using the present system of atomic weights, $CHCl_3$)

Although its narcotising properties were known to some extent, no one who used it at that time seems to have conceived the idea of fully testing its properties. In 1831, Ives, of Newhaven, treated a case of difficult respiration by actual inhalation of the vapour, and published the facts in "Silliman's Journal" in January, 1832. Four years later, Dr. Formby, of Liverpool, prescribed it in hysteria, and Tuson, of London, employed it in the treatment of cancer and neuralgia in 1844.

Previous use of chloroform in medical practice

The fact that one or two deaths had been attributed to the use of ether about this time, caused many workers to make a search for other agents with similar properties. Foremost among these investigators was Dr. James Young Simpson, Professor of Midwifery in the University of Edinburgh, who personally experimented with several chemical liquids in the hope of finding something less disagreeable and persistent in smell than ether.

Simpson's investigations

About this time Jacob Bell, a chemist, and a founder of the Pharmaceutical Society, published a suggestion that chloric ether should be used for inhalation instead of sulphuric ether; but his suggestion was apparently never put into practice. In October, 1847, Waldie, a chemist of Liverpool, was visiting Edinburgh, and in conversation with Professor Simpson, suggested to the latter the

Waldie suggests the use of chloroform



JAMES YOUNG SIMPSON

use of chloroform. He recommended the Professor to try it as an anæsthetic, and promised to make and send him some on his return to his home in Liverpool.

It appears to have been in that city that the drug was first introduced and probably first used in England as a medicinal agent. Waldie states that about the year 1838 a prescription was brought to the Apothecaries' Hall, Liverpool (where he held the position of manager), of which one of the ingredients was chloric ether. The preparation was at that time apparently not known in this country, for Dr. Brett, the chemist of the Company, specially prepared some from the formula he found in the United States Dispensatory. Its properties pleased some of the medical men, particularly Dr. Formby, by whom it was introduced into local practice. Waldie, finding that the preparation was not uniform in strength, improved the process by separating and purifying the chloroform, and dissolving it in pure spirit, by which a product of sweet flavour was obtained.

There seems little doubt that Waldie was the first to suggest the use of chloroform as an anæsthetic to Professor Simpson, who at once resolved to try it by experimenting on himself and his assistants. He made the first experiment in his own house on November 4th, 1847, and in a letter written to Waldie thus describes the event: "I am sure you will be delighted to see part of the good results of our hasty conversation. I had the chloroform for several days in the house before trying it, as after seeing it such a heavy, unvolatile-like liquid I despaired of it, and went on dreaming about others. The first night we took it, Dr. Duncan, Dr. Keith and I all tried it simultaneously, and were all 'under the table' in a minute or two." On the eve of the great discovery Professor Miller, who was a neighbour of Simpson's, used to come every morning to see if the experimenters had survived! He describes how, "after a weary day's

labour, Simpson and his assistants sat down and inhaled various drugs out of tumblers, as was their custom. Chloroform was searched for and found beneath a heap of waste paper, and with each tumbler newly charged the inhalers resumed their occupation. . . . A moment more, then all was quiet; then a crash. On awakening, Simpson's first perception was mental. 'This is far stronger and better than ether' said he to himself. His second was to note that he was prostrate on the floor, and that among the friends about him there was both confusion and alarm. Of his assistants, Dr. Duncan he saw snoring heavily, and Dr. Keith kicking violently at the table above him. They made several more trials of it on that eventful evening, and were so satisfied with the results that the festivities did not terminate until a late hour."

Simpson achieves success

On November 10th, 1847, Simpson communicated his discovery to the Medico-Chirurgical Society of Edinburgh, in a paper entitled, "Notice of a new anæsthetic agent as a substitute for sulphuric ether." Five days later chloroform was used for the first time in a surgical operation in the Edinburgh Royal Infirmary. Three patients were operated on successfully under its influence. One, who was a soldier, was so delighted with the effect that, on awaking after the operation, he is said to have seized the sponge with which administration had been made, and thrusting it into his mouth again resumed inhalation more vigorously than before.

To Simpson, there is no doubt, belongs the merit of having made anæsthesia triumph over all the opposition, which was at first, actively, offered to its use. For this he well deserved the rewards which fell upon him in the evening of his life.

Among those who aided in the establishment of the use of anæsthetics, mention must be made of the work of John Snow, who by his researches placed the practice on a scientific basis.

Tbe advent of chloroform gave an impetus to other investigators in the field of anæsthesia, and during the last fifty years many other bodies have been introduced and tried with more or less success for the same purpose. Methyl chloride, which was discovered by Dumas and Peligot, was introducecl by Deboe in 1887, who used it extensively in local affections. In 1867, Sir B. W. Richardson introduced methyl bichloride or metbylene [methylene dichloride]. He formed a very high estimate of its properties as a good general anæsthetic, and said he preferred it for many reasons to chloroform, as he found that the anæsthetic sleep was produced more quickly and was more prolonged.

Sir T. Spencer Wells also advocated its use, and stated, in 1872, that it had fewer drawbacks than any then known anæsthetic. Tetra-chloride of methyn [carbon tetrachloride], wbich much resembles chloroform, was discovered by Regnault in 1839, and its anæsthetic properties were first made known by Sansom and Harley in 1864. Simpson was of the opinion that it had a more depressing effect upon the heart tban chloroform, and was more dangerous generally as an anæsthetic.

Nunneley, of Leeds, also contributed work of value in this department of research, and introduced ethyl bromide and chloride of carbon. He dispelled the idea, long prevalent, that anæsthetics could be found only in a limited class of chemical compounds.

Among other substances which have been introduced during the last twenty-five years, but which, owing to one defect or another, have since been practically abandoned, mention should be made of butylic hydride [butane], ethylene, amylene, ethyl nitrate, aldehyde (introduced by Poggiale), carbon bisulphide, ethidene dichloride [ethylene dichloride] (discovered by Regnault and first used as an anæsthetic by Snow), and ethyl bromide, first prepared by Scrullus in 1827.

Local Anæsthetics

Local anæsthesia, already alluded to as probably the carliest form of numbing sensibility to pain, was practised in antient times by the inunction of various narcotics, but after the seventeenth century the practice seems to have almost entirely gone out of usc. The latter end of the nineteenth century, however, marks a new era in this department.

On September 15, 1884, considerable interest was aroused by a communication made at the Ophthalmological Congress at Heidelberg, by Karl Koller, of Vienna, in which he demonstrated the effects of cocaine as a local anæsthetic.

The alkaloid now known as cocaine was isolated by Gädeke, from the leaves of the *Erythroxylon Coca* as far back as 1855. He called it ethroxylene. Four years later a further investigation of the plant was made by Nieman, who noticed that the leaves produced a numbness of the tongue; and in 1874 Hughes Bennett demonstrated that cocaine possessed anæsthetic properties. In 1880, Von Anrep, who made a careful investigation of the drug, hinted that the alkaloid might be of use in general surgery as a local anæsthetic, and Koller undertook a series of experiments on animals in the laboratory of Professor Strickèr, in which he found that complete anæsthesia of the eye, lasting, on an average, ten minutes, followed the introduction of a two per cent. solution of the alkaloid.

The discovery of Cocaine

The immense value of such an anæsthetic in ophthalmic operations was universally recognised, and it at once came into general use. In painful conditions of mucous surfaces, and for minor operations, cocaine has been found of great service, and as a local anæsthetic it has a large field of usefulness. Since the introduction of cocaine, other substances have been brought forward, which, after extensive trials, have proved to be of real clinical value. Of these may be

mentioned eucaine, a synthetic product (benzoyl-vinyl-diaceton-alkamine) discovered by Merling, and first studied by Vinci in Liebreich's laboratory. Of the two forms of this drug used, which are known as A and B, the latter was soon found to be the only one suitable for producing local anæsthesia. Its properties are similar to those of cocaine, with the exception that it produces no vaso-constriction, and it is claimed that it is equal in anæsthetic power, while its toxicity is very much less.

Stovaine and Tropacocaine

Stovaine, or ethyl-dimethyl-aminopropanol hydrochloride, more recently introduced, is a synthetic product elaborated by Fourneau, and derived from tertiary amyl alcohol. It is much less toxic than cocaine, but its comparative value still remains to be proved by further trial. Tropacocaine, a drug closely allied to cocaine, and derived from the leaves of the Java coca plant, has recently been much used in Germany, but it does not appear to possess any advantages over cocaine or eucaine.

The Necessity for Absolute Purity in Chloroform

Administration of Chloroform

Considerable attention has been directed to different methods of administering chloroform, and various forms of apparatus have been devised which claim to reduce to a minimum the dangers of anæsthesia. Assuming a most skilled and competent administrator, an ideal method of administration, and a suitable patient, an unsatisfactory result can only be attributed to the chloroform employed. Purity of chloroform is a most important factor in contributing to safe anæsthesia. The physician claims that absolute purity shall characterise all medicinal agents, and the justice of the claim is acknowledged by the trend of recent legislation. Purity is a prime essential of any anæsthetic. The presence of impurities

Purity an essential



An Operation in the Twentieth Century

largely increases the risk inseparable from the use of chloroform. The train of symptoms observed during the normal process of anæsthesia may be masked and altered, and dangerous results may supervene under the most competent, careful and observant administrator.

Danger of impurities

That some of the chloroform offered to the profession may reasonably be regarded with suspicion is evidenced by the words of a prominent obstetrician, based on the experience of 40 years in the use of chloroform; this authority expresses himself as follows: "I may say I fear the chloroform in common use is often far from being as pure as it should be, and is sometimes very defective in this respect."

Expert testimony

Impurities may result from the process of manufacture, or from decomposition. Conspicuous amongst these undesirable elements are chlorine, hydrochloric acid and phosgene, which irritate the lining membrane of the respiratory tract and interfere with the normal process of respiration. Such irritation may result in arrest of cardiac action or may produce a severe form of bronchitis. It is obviously of great importance that chloroform should be free from irritating properties that the respiratory passages should not be obstructed, and that during anæsthesia the breathing and the circulation should approximate the normal. Superadded to these results, produced by local irritation, is the effect of other impurities which exert their action after absorption. These latter markedly increase the cardiac depression which has been shown to follow the administration of pure chloroform. Such an action is difficult of detection, and is, probably, in large degree responsible for a considerable number of the accidents reported.

Effects of impurities

Of recent years increased knowledge has elaborated

exact tests, which ensure the absence of these impurities. Nevertheless, anæsthetists of wide experience have obtained results which could not be reconciled with the use of pure chloroform. It has been observed that different chloroforms, all of which answer the official tests for purity, give effects which are difficult to harmonise, and the interpretation of which only appears satisfactory on the assumption that the chloroforms differ in composition. Whilst one chloroform acts most satisfactorily, another produces, during the early stages of administration, a marked excitement and an irregularity of breathing, which prolongs the period of induction. Further investigation has therefore been deemed necessary, and a comprehensive and careful research has elucidated the cause of these hitherto unexplained phenomena (Wade and Finnemore, "Journal of the Chemical Society," 1904, 85, 938). In the chloroforms which produced anæsthesia in a satisfactory manner, has been demonstrated the presence of ethyl chloride in minute and varying quantities. When the undesirable effects were noted, no ethyl chloride was detected in the anæsthetic. A physiological test conclusively proved that ethyl chloride was the factor which determined these differences.

Contradictory results

Recent research

Ethyl chloride

A chloroform which had previously given undesirable effects, and in which the presence of ethyl chloride could not be demonstrated, was modified so as to contain a small proportion of the latter. The chloroform then proved a most satisfactory anæsthetic, and there was entire absence of the excitement and respiratory irregularity previously observed. The results of this research are of the utmost value. In the initial stages of the induction of chloroform anæsthesia, the presence of a small quantity of ethyl chloride has a beneficial effect, leading to the absence of mental excitement, and steadies the breathing. The respiration is stimulated

Value of the investigation

and becomes regular and deep. In these circumstances, satisfactory anæsthesia is induced with rapidity and ease.

A Chronological Table of Chief Events and Discoveries in the History of Anæsthesia

Nitrous Oxide

Joseph Priestley 1776
Humphry Davy 1800
Horace Wells (Colton, Riggs, Evans, Best) ... 1844

Alcohol and Nitrous Oxide

Collier 1835–42

Ether

Michael Faraday 1818
W. T. G. Morton 1846
Charles T. Jackson 1846
First surgical operation in America October 16, 1846
First surgical operation in Great Britain, December 21, 1846
(Long, Warren, Hayward, Bigelow, Boote, Robinson, Liston, Buchanan, Louget, Snow, Simpson, Bernard, Clover)

Chloroform

Guthrie 1831
Waldie 1847
James Young Simpson 1847
(Soubeiran, Liebig, Dumas, Flourens, M. Duncan, G. Keith, Snow, Nunneley, James Arnott)

Cocaine

Gädeke 1855
Hughes Bennett 1874
Von Anrep 1880
Koller 1884

'WELLCOME' BRAND CHLOROFORM

'Wellcome' Brand Chloroform represents the results of the most recent research. It embodies the essentials of purity and uniformity, the necessary basis of a satisfactory chloroform. Some chloroforms which satisfy official standards, have yet been shown to vary in composition and in effect, the result depending on the occurrence in the preparation of a small and varying quantity of ethyl chloride. 'Wellcome' Brand Chloroform is of constant composition and gives uniform effects. It conforms in every respect to the requirements of the U.S.P., and contains a definite small proportion of ethyl chloride, which has been found to assist the satisfactory induction of anæsthesia.

A satisfactory chloroform

Ethyl chloride

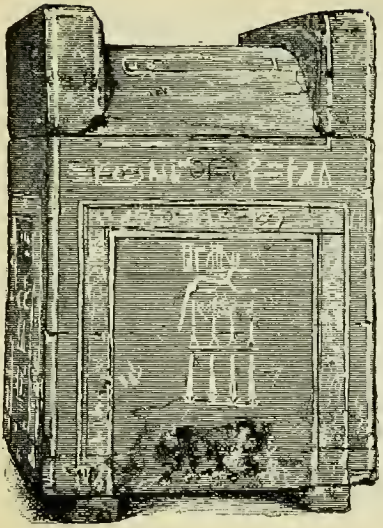
Conforms to U.S.P.

'Wellcome' Brand Chloroform is the result of prolonged laboratory experiment and careful clinical observation. Its reception by the profession confirms the theory upon which its production is based. It has been largely used in hospital and in private practice, and with gratifying results. Reports from most experienced anæsthetists agree in regarding 'Wellcome' Brand Chloroform as a distinct advance. Its constancy in composition gives confidence in administration, and its freedom from irritating and depressant principles removes the source of many of the accidents which have hitherto been regarded as grave objections to the employment of chloroform as an anæsthetic.

Proved value

Confidence in administration

'Wellcome' Brand Chloroform is issued in 2 oz., $\frac{1}{4}$ lb., $\frac{1}{2}$ lb. and 1 lb. amber-coloured bottles. Also in 30 c.c. and 60 c.c. hermetically-sealed tubes, as illustrated on page ii at end after memoranda pages.

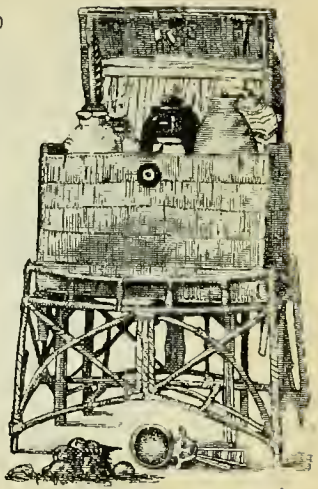


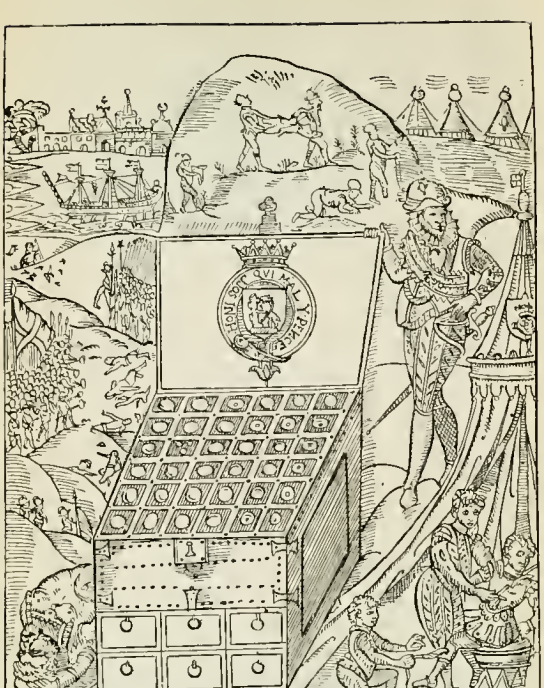
THE MEDICINE CHEST OF QUEEN MENTU-HOTEP, WHO LIVED B.C. 2,200

The massive outer case for the chest is shown on the left. It is composed of wood, decorated with hieroglyphics, amongst which are the royal cartouche and the figure of a crouching jackal.

The chest itself is depicted on the right. It is composed of plaited papyrus reeds, and is supported on a stand. The chest is divided into six compartments, each containing a beautifully shaped medicine jar of oriental alabaster. Various medicinal roots, and a wooden spoon, the handle of which is ornamented with the head of Hathor were discovered in the chest.

This unique Egyptian medical equipment was discovered at Thebes, and demonstrates the huge bulk and cumbersome fittings combined with paucity of supplies, which have been characteristic of medical outfits from the days of the Pharaohs until the introduction of 'Tabloid' products. The modern medical man armed with a 'Tabloid' brand Pocket-Case carries a scientific therapeutic equipment, the equivalent of which in the drugs of antient Egypt could be transported only by a regiment of slaves.





MILITARY MEDICINE CHEST—1588

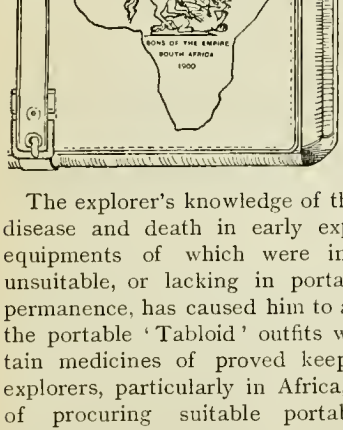
Fabricius, a noted Swiss physician of the XVI. century, recommended that the military chest should be furnished with no less than 362 varieties of medicine, some of which contained as many as 64 ingredients. The complexity of arrangement, the huge bulk and great weight, the liability to breakage, and the complicated inconvenience of medicine chests persisted until the introduction of 'Tabloid' Medical Equipments.

Historical Medical Equipments

The medicine chests and cases used by explorers and missionaries possess a unique interest of the most intimate and personal kind; whilst those which have formed the medical equipments of military expeditions, and have been the armamentaria employed to combat sickness and death in the field, naturally appeal strongly to physicians.

Severe Tests

The conditions under which these equipments have necessarily been employed, combining rough usage and exposure (in some cases for years) to every variety of climate, form the severest tests to which it is possible for medicines and medicine cases to be subjected.



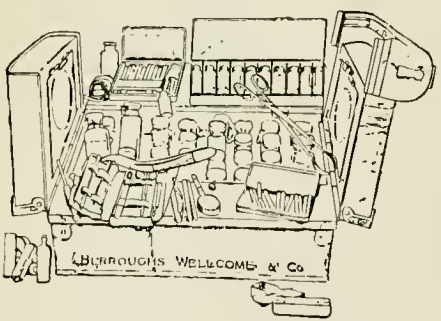
One of the 'Tabloid' Brand Medicine Cases specially designed for and supplied to the troops from the various British Colonies, for use in the South African Campaign.

Difficulties of early Explorers

The explorer's knowledge of the ravages wrought by disease and death in early expeditions, the medical equipments of which were inadequate, unsuitable, or lacking in portability and permanence, has caused him to appreciate the portable 'Tabloid' outfits which contain medicines of proved keeping qualities. Early explorers, particularly in Africa, found the difficulties of procuring suitable portable medical supplies practically insuperable, and the horrors of disease and death associated with their expeditions were almost beyond description.

When I think [said Sir H. M. STANLEY, in the course of one of his lectures] of the dreadful mortality of Capt. TUCKEY's expedition in 1816, of the NIGER Expedition in 1841, of the sufferings of BURTON and SPEKE, and of my own first two expeditions, I am amazed to find that much of the mortality and sickness was due to the crude way in which medicines were supplied to travellers. The very recollection causes me to shudder.

Early Expeditions. Mortality due to crude Medicines



One of the 'TABLOID' BRAND MEDICINE CHESTS carried by Sir H. M. STANLEY through "Darkest Africa," and brought back after three years' journey with the remaining contents unimpaired.

That a very marked change has taken place can be gathered from a more recent speech of this eminent explorer, in which he said:—

In my early expeditions into Africa, there was one secret wish which endured with me always, and that was to ameliorate the miseries of African explorers. How it was to be done I knew not; who was to do it, I did not know. But I made the acquaintance of Messrs. BURROUGHS WELLCOME & Co. As soon as I came in sight of their preparations and their works, I found the consummation of my secret wish. On my later expeditions I had all the medicines that were required for my black men, as well as my white men, beautifully prepared, and in most

B. W. & Co. solved the Problem

elegant fashion arranged in the smallest medicine chest it was ever my lot to carry into Africa.

In his books, "Founding the Congo Free State" and "In Darkest Africa," Sir H. M. STANLEY wrote in the very highest terms of 'Tabloid' Medical Equipments.

Amongst other cases used during STANLEY's travels, is the famous "Rear Guard" 'Tabloid' Medicine Chest, which remained in the swampy forest regions of the Aruwhimi for nearly four years, and more than once was actually submerged in the river. When it was brought back to London, the remaining contents were tested by the official analyst of "THE LANCET" (London, Eng.), who reported that the 'Tabloid' Medicaments had perfectly preserved their efficacy.

Contents of Stanley's "RearGuard" Chest tested by "The Lancet"

The late Surgeon-Major PARKE, Stanley's Medical Officer, in his "Guide to Health in Africa," writes:—

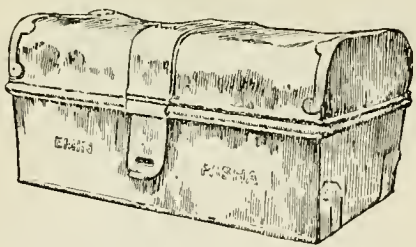
> The medicinal preparations which I have throughout recommended are those of BURROUGHS WELLCOME & Co., as I have found, after a varied experience of the different forms in which drugs are prepared for foreign use, that there are none which can compare with them ['Tabloid' products] for convenience of portability in transit, and for unfailing reliability in strength of doses after prolonged exposure.

"None can compare for unfailing Reliability, Portability and Convenience"

At this point it is of interest to turn to the 'Tabloid' Medicine Chest, here illustrated, which was discovered near Kenia, in the Aruwhimi Dwarf Country. It was the last case supplied to EMIN PASHA, GORDON's Governor of the Equatorial Sudan. It was taken by Arabs when he was massacred in 1892, and was recaptured by BARON DHANIS, commandant of the Congo Free State troops, after the battle of Kasongo. This chest was subsequently stolen by natives, and

Emin Pasha

finally recovered by an officer of the Congo Free State, and returned to BURROUGHS WELLCOME & Co.



EMIN PASHA'S 'TABLOID' BRAND MEDICINE CHEST

The following is a copy of Emin Pasha's letter written to BURROUGHS WELLCOME & Co., on receiving the chest :—

> Gentlemen,—I found the medicine chest you forwarded me fully stocked. I need not tell you that its very completeness made bound my heart. Articles like those could not be made but at the hand of the greatest artists in their own department. If any one relieved from intense pain pours out his blessings, they will come home to you.
>
> I should like to expatiate somewhat longer on the intrinsical value, but sickness preventing me to do so. I wish you to believe me,
>
> Yours very faithfully
>
> Dr Emin Pasha

A history of all the 'Tabloid' Equipments associated with African exploration would, of itself, make a large volume, and it is only possible to make brief mention of a few other instances of their use.

Military Expeditions

That 'TABLOID' EQUIPMENTS excel for military purposes has been abundantly demonstrated during various British and foreign military campaigns. The following is an extract from the Official Government Report, made by the CHIEF MEDICAL OFFICER of the recent BRITISH

MILITARY EXPEDITION to ASHANTI, on the 'Tabloid' Brand Medical Equipment which was supplied by BURROUGHS WELLCOME & Co.:—

The supply of medicines, both as to quality and quantity, left nothing to be desired. There was no scarcity of anything. The 'Tabloid' medicines were found to be most convenient and of excellent quality. To be able to take out at once the required dose of any medicine, without having to weigh or measure it, is a convenience that cannot be expressed in words. Time is saved to an extent that can hardly be realised, and so is space, for a fitted dispensary, or even a dispensary table is unnecessary. The quality of medicines was so good that no other should be taken into the field. The cases supplied are almost ideal ones for the Government. They are light yet strong, and the arrangement of the materials and medicines is as nearly perfect as possible.

Required dose at once. No delay to weigh or measure

"Quality so good, no other should be taken into the field"

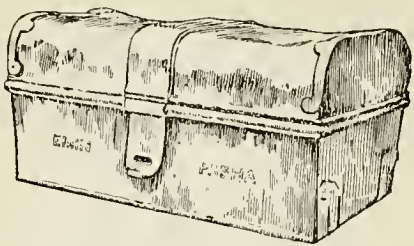
It is instructive to compare the experience of this expedition with that of the WOLSELEY ASHANTI EXPEDITION of 1873, fitted out according to old-time methods. The suffering and loss of life were then terrible for want of suitable medical equipments.

Without exception, 'Tabloid' Medical Equipments have been used in all the campaigns of the last twenty-five years, and have played an important part in combating the diseases which seem inseparable from an army in the field.

During the American war with Spain, in Cuba and the Philippines, 'Tabloid' Medical Equipments were specially ordered for, and used by, the U.S. Army and Navy.

The expedition which, under the command of LORD KITCHENER, defeated the Khalifa and reconquered the Sudan, was supplied with 'Tabloid' Medical Equipments.

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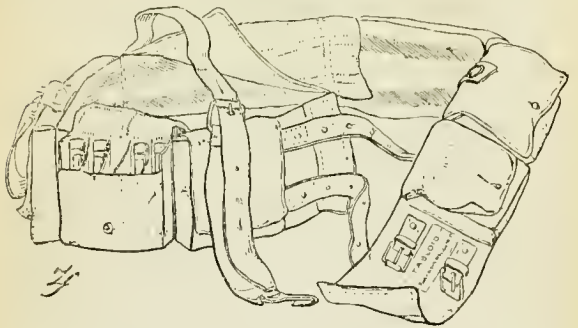
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The 'Tabloid' belts and other Medical Equipments supplied to NANSEN for his journey in the "FRAM," and those used by the JACKSON-HARMSWORTH ARCTIC

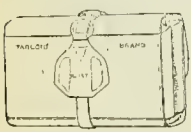


One of the 'TABLOID' BRAND MEDICINE BELTS carried by NANSEN on his Arctic Expedition.

EXPEDITION, are now added to the historic collection of BURROUGHS WELLCOME & CO.

Unaffected by Climate

The ITALIAN ARCTIC EXPEDITION, commanded by the DUKE OF THE ABRUZZI, found that, despite the fact that the northern latitude of 86° 33′ 49″ was reached, the 'Tabloid' Medicine Chests and Cases with which the expedition was equipped have been brought back with their remaining contents quite unaffected by the rigour of the climate.

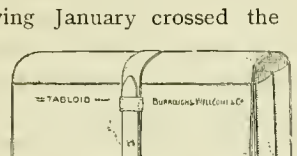


One of the 'TABLOID' BRAND MEDICINE CASES carried by the DUKE OF THE ABRUZZI'S Polar Expedition.

The entire medical outfit of the National Antarctic Expedition was furnished by Burroughs Wellcome & Co., and on the return of the "DISCOVERY," with the

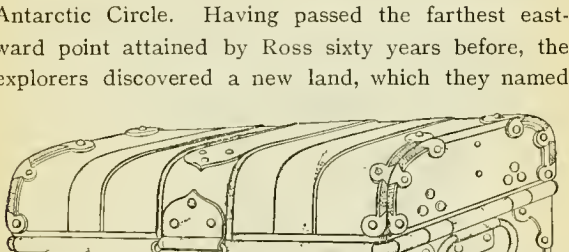
members of the expedition on board, the medical officer made a highly satisfactory report on the 'Tabloid' Medical Equipment.

In August, 1901, the "Discovery" left England, and in the following January crossed the limit of the



One of the 'Tabloid' Brand Medicine Cases carried by the National Antarctic Expedition.

Antarctic Circle. Having passed the farthest eastward point attained by Ross sixty years before, the explorers discovered a new land, which they named



One of the 'Tabloid' Brand Medicine Chests carried by the National Antarctic Expedition.

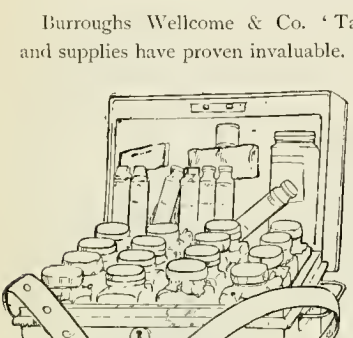
King Edward VII Land. One of the most noteworthy features of the expedition was the arduous sledge journey undertaken by the commander, Captain Scott, accompanied by Dr. Wilson and Lieutenant Shackelton. This journey over the ice occupied

three months, and the record latitude of 82° 17′ South was reached. On sledge journeys the question of weight is of great moment. The traveller, on such occasions, must carry but the barest necessaries, and of these the lightest procurable. The medicine chest is an important item, for upon the efficacy of its contents the lives of the explorers may depend. Every drug carried must be of the utmost reliability, in the most compact state, and capable of withstanding an extremely low temperature.

Reliability essential

COMMANDER PEARY, to whose record stands the achievement of reaching the record northern latitude, writing from Etah, Greenland, reports:—

Burroughs Wellcome & Co. 'Tabloid' Medicine Cases and supplies have proven invaluable.



One of the 'TABLOID BRAND MEDICINE CHESTS used by COMMANDER R. E. PEARY

That 'Tabloid' Medical Equipments fulfil all requirements has been proved again and again. They enable the traveller to carry a comparatively large supply of medicines, and may be used under conditions

which would render the carriage and administration of ordinary preparations impossible.

To the enthusiasm of Sir CLEMENTS MARKHAM, K.C.B., then President of the Royal Geographical Society, the successful organisation of the expedition is largely due. Referring to the 'Tabloid' Medical Equipment of the "DISCOVERY," he reports:—

National Antarctic Expedition
1, Savile Row,
Burlington Gardens, W.

The Medical Equipment of the Exploring Ship of the National Antarctic Expedition was entirely supplied by Messrs Burroughs, Wellcome & Co., and, proved in every way most satisfactory.

The few other drugs and preparations which were taken with the Expedition were only supplied for purpoees of experiment, and, can in no way be regarded as part of the medical equipment.

Clements R Markham

27. April 1905



S.S. "DISCOVERY"
NATIONAL ANTARCTIC EXPEDITION

The entire medical equipment of this expedition was furnished by Burroughs Wellcome & Co.

Dr. Kœttlitz, the Senior Medical Officer to the expedition, reports:—

"Discovery" Antarctic Expedition.

The Medical Equipment of the "Discovery" Exploring Ship, of the National Antarctic Expedition, was entirely supplied by Messrs. Burroughs Wellcome & Co., mostly in the form of 'Tabloid,' 'Soloid' and 'Enule' preparations.

The preparations proved, in every way, most satisfactory, and there was no deterioration of any of them in spite of the conditions of climate and temperature to which they were exposed. The few other drugs and preparations which were taken with the expedition were only taken for purposes of experiment.

The cases supplied by Burroughs Wellcome & Co. to us have also been found satisfactory, the small leather one was very useful upon sledge journeys, being light and compact. The No. 250 'Tabloid' Case was used for some weeks at the camp eleven miles north of the ship, when the whole ship's company was engaged in sawing and blasting the ice, and it was found very convenient.

The other cases were useful in our cabins, etc., for a handy supply.

Reginald Kœttlitz

The relief ship "Morning" was also provided with a 'Tabloid' Medical Equipment, and the Medical Officer, Dr. George Davidson, sends the following report:—

Antarctic Relief Ship "Morning."

I wish very heartily to express my perfect satisfaction with the medical equipment which was supplied to the Antarctic Relief Ship "Morning" by Burroughs Wellcome & Co. When I say that it was compact, yet complete, that everything was just to hand, that during a period of two years and three months I was never at a loss to find just the medicine I wanted, and that without delay, I need say no more to

emphasise the extraordinary convenience which a 'Tabloid' and 'Soloid' outfit is to a ship such as ours, whether at sea or in the ice. I found the 'Tabloid' and 'Soloid products to remain unchanged throughout the whole period of my commission, and to equal in efficacy the best medical preparations I have yet had occasion to use. It is impossible to realise without experience how much can be condensed by this mode of exhibition in a very small space. I strongly advise all intending explorers to betake themselves to Burroughs Wellcome & Co. for their medical equipment, and they will not be disappointed.

George A. Davidson

From Dr. EDWARD WILSON, also, who was in charge of some of the sledge journeys from the "Discovery," the following report has been received :—

"DISCOVERY" ANTARCTIC EXPEDITION.

Though there was but little serious illness on the "Discovery" during the recent Antarctic Expedition, the 'Tabloid' preparations and the cases were put to a fairly rigorous test, not only in the ship, but on the various sledge journeys that were undertaken, during which they experienced temperatures as low as 68° below zero, and much rough handling, without any loss in efficiency and usefulness. Certain of the 'Tabloid' Ophthalmics were freely used for snow blindness, and were found to be most convenient.

Edward A. Wilson.

30,000 miles. Arid Desert and Humid Swamps. Extreme Heat and Cold

Mr. JULIUS PRICE, the special artist and correspondent of the "Illustrated London News," reports that he carried his 'Tabloid' Medicine Case over 30,000 miles through Arctic regions, across Siberia, through China, Japan and America. Despite the severe wear and tear of this great journey, the case has suffered little, and the remaining contents are quite unaffected by exposure to every variety of climate.

Two typical reports on 'Tabloid' Equipments are appended:—

Extract from the report of R. F. RAND, ESQ., M.D., F.R.C.S., Principal Medical Officer, British South Africa Company:—

"Inestimable Service"

We have had Burroughs Wellcome & Co.'s 'Congo' Chests, fitted with 'Tabloid' medicines, in daily use during the occupation of this country. They have proved of inestimable service.

Extract from the report of the late W. H. CROSSE, M.D., M.R.C.S., Principal Medical Officer, British Royal Niger Company:—

"The Very Best Quality"

All these 'Tabloid' drugs are so good it is impossible for me to speak more highly of one than another. They are all of the very best quality, each drug is accurately described, and reliable. To the traveller these preparations are simply invaluable, and I would strongly advise every one coming out to the Tropics to get a full supply of 'Tabloid' medicines.

Study of Medicines Suitable for every Climate

BURROUGHS WELLCOME & Co. have for many years made a special study of the requirements of travellers and expeditions, not only in respect of compactness, portability and permanence, but also in the selection of remedies necessary to combat the maladies prevalent in every clime, from the Arctic to the Antarctic.

'Tabloid' Brand Medicine Cases contain in a small space a complete outfit of pure drugs in doses of extreme accuracy.

Emergency Cases for Pocket, Cycle, Motor or Carriage

So compact are these cases that they can be carried in the pocket, in the carriage or motor-car, or on the cycle, their contents being always ready for use in emergencies. They are specially valuable to the country practitioner, who is often called upon to cover long distances, and who would experience great difficulty in carrying or obtaining supplies of such medicines as he may desire to administer promptly, were it not for the convenience and portability of 'Tabloid' Brand Medicine Cases.



THE SMALLEST MEDICINE CHEST IN THE WORLD

This tiny gold medicine chest is fitted with twelve square medicine chest bottles containing 300 doses of 'Tabloid' Brand Medicaments, equivalent to 15 pints of fluid medicine.

HYPODERMIC POCKET-CASES

'TABLOID' BRAND

[℠ B. W. & Co.]

Special Designs, the property of Burroughs Wellcome & Co.

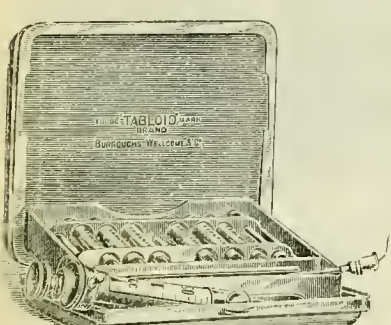
The word 'Tabloid' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

'Tabloid' Hypodermic Pocket-Cases provide complete armamentaria for hypodermic work. Primarily intended for emergency purposes, such essentials as compactness and convenience in use have received the fullest attention, and with unique result. A full equipment of hypodermic drugs of utmost reliability and accuracy of dosage, together with syringe and needles, may, by means of a 'Tabloid' Hypodermic Outfit, be carried easily in the waistcoat pocket.

For Waistcoat Pocket

Hypodermic 'Tabloid' Brand Pocket-Cases are prepared in gold, silver, gun-metal, or aluminium, and in a great variety of fancy leathers. Each contains a B. W. & Co. Hypodermic Syringe with needles, and from five to fifteen tubes of 'Tabloid' Brand Hypodermic products, etc.

No. 7. HYPODERMIC 'TABLOID' BRAND POCKET-CASE



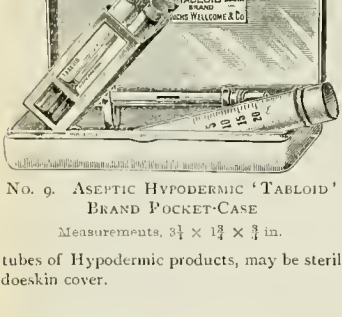
No. 7. HYPODERMIC 'TABLOID' BRAND POCKET-CASE

Measurements, $3\frac{1}{2} \times 3\frac{1}{8} \times \frac{3}{4}$ in.

With special detachable aseptic frame of novel design, and revolving rack. Fitted with twelve tubes of 'Tabloid' Hypodermic products, nickel-plated syringe, one exploring and two regular steel needles. This case, after the removal of the tubes of Hypodermic products, may be sterilised with ease. In Gun-metal or in Aluminium.

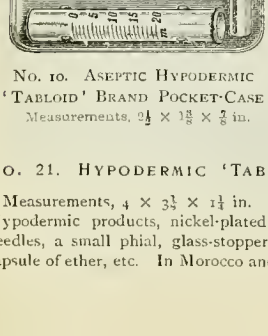
No. 9. Aseptic Hypodermic 'Tabloid' Brand Pocket-Case

This case is a model of compact completeness. It is made of nickel-plated metal, each edge and corner being smoothly rounded. It contains the B. W. & Co. All-Glass Aseptic Syringe, with detachable nickel-plated finger-grip, and two regular steel needles enclosed in a protective tube. The tubes of 'Tabloid' Hypodermic products, eight in number, are carried in a hinged rack, which securely holds them when the case is closed, and which, when swung outwards, allows of the easy withdrawal of the desired tube. This case, after the removal of the tubes of Hypodermic products, may be sterilised with ease. Enclosed in a doeskin cover.



No. 9. Aseptic Hypodermic 'Tabloid' Brand Pocket-Case
Measurements, $3\frac{1}{4} \times 1\frac{3}{4} \times \frac{3}{4}$ in.

No. 10. Aseptic Hypodermic 'Tabloid' Brand Pocket-Case



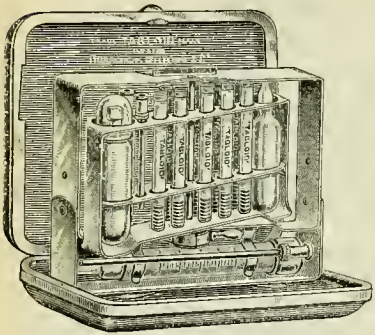
No. 10. Aseptic Hypodermic 'Tabloid' Brand Pocket-Case
Measurements, $2\frac{1}{2} \times 1\frac{3}{8} \times \frac{7}{8}$ in.

Nickel-plated metal. Fitted with the B. W. & Co. All-Glass Aseptic Syringe (capacity min. 20) with detachable finger-grip and two regular steel needles. Each part of the syringe is separately held in a holdfast clip. A hinged rack carries five tubes of 'Tabloid' Hypodermic products. Enclosed in a doeskin cover.

No. 21. Hypodermic 'Tabloid' Brand Pocket-Case

Measurements, $4 \times 3\frac{1}{2} \times 1\frac{1}{4}$ in. Fitted with nine tubes of 'Tabloid' Hypodermic products, nickel-plated hypodermic syringe with two steel needles, a small phial, glass-stoppered and capped, for sterilised water, capsule of ether, etc. In Morocco and other fine leathers.

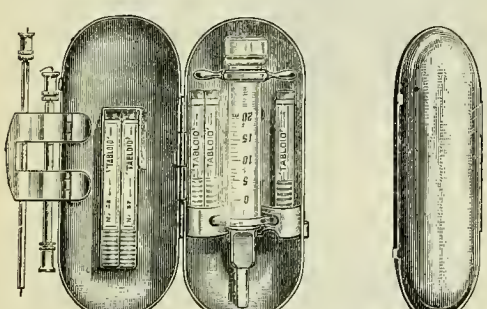
No. 23. Aseptic Hypodermic 'Tabloid' Brand Pocket-Case



No. 23. Aseptic Hypodermic 'Tabloid' Brand Pocket-Case
Measurements, $3\frac{1}{2} \times 3\frac{1}{8} \times \frac{3}{4}$ in.

In Gun-metal or in Aluminium, with special detachable nickel-plated aseptic frame and revolving rack. Contents same as those of No. 21 Case, with the addition of a steel exploring needle. This case, after the removal of the tubes of Hypodermic products, may be sterilised with ease.

No. 32. Aseptic Hypodermic 'Tabloid' Brand Pocket-Case (The Mussel Shell)



OPEN CLOSED

No. 32. Aseptic Hypodermic 'Tabloid' Brand Pocket-Case (The Mussel Shell)
Measurements, $3\frac{3}{4} \times 1\frac{3}{4} \times \frac{3}{4}$ in.

Made of nickel-plated metal, occupies very little space, and is conveniently shaped for the pocket. Fitted with nickel-plated hypodermic syringe, five tubes of 'Tabloid' Hypodermic products, one exploring and two regular steel needles. This case, after the removal of the tubes of hypodermic products, may be sterilised with ease. Enclosed in a leather cover.

OPHTHALMIC POCKET-CASES 'TABLOID' BRAND

[℠ B. W. & Co.]

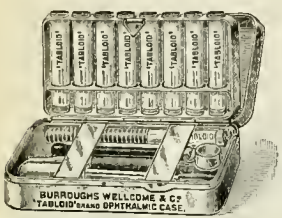
Special Designs, the property of Burroughs Wellcome & Co.

The word 'Tabloid' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

Width of Two Fingers

'Tabloid' Ophthalmic Cases are the most compact and complete equipments for ophthalmic work. In a space of two or three cubic inches they contain supplies of active and accurately divided ophthalmic drugs, solution dropper, camel-hair brushes, etc.

No. 91. ASEPTIC OPHTHALMIC 'TABLOID' BRAND POCKET-CASE



No. 91. ASEPTIC OPHTHALMIC 'TABLOID' BRAND POCKET-CASE
Measurements, $2\frac{1}{4} \times 1\frac{1}{4} \times \frac{3}{4}$ in.

In nickel-plated metal. Fitted with nine tubes of 'Tabloid' and 'Soloid' Ophthalmic products, in nickel-plated rack, solution dropper, mortar, pestle, and two camel-hair brushes. This case, after the removal of the contents may be sterilised with ease.

No. 92. ASEPTIC OPHTHALMIC 'TABLOID' BRAND POCKET-CASE (The Mussel Shell)



No. 92. ASEPTIC OPHTHALMIC 'TABLOID' BRAND POCKET-CASE (The Mussel Shell)
Measurements, $2\frac{1}{2} \times 1\frac{1}{8} \times \frac{5}{8}$ in

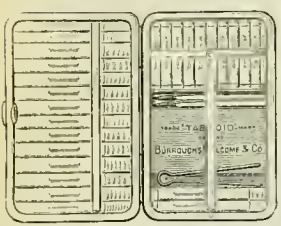
In nickel-plated metal. Fitted with seven tubes of 'Tabloid' Ophthalmic products, mortar, pestle, vulcanite rod, solution dropper, and two camel-hair pencils. Enclosed in a doeskin cover. The shape and size of this case make it specially suitable for carrying in the waistcoat pocket. After the removal of its contents, the case can be readily sterilised.

HYPODERMIC AND OPHTHALMIC POCKET-CASES 'TABLOID' BRAND

[See B. W. & Co.]

No. 80. HYPODERMIC AND OPHTHALMIC 'TABLOID' BRAND POCKET-CASE

(The "British Army Regulation")



No. 80. HYPODERMIC AND OPHTHALMIC 'TABLOID' BRAND POCKET-CASE (The "British Army Regulation")
Measurements. $3\frac{1}{4} \times 2\frac{1}{4} \times \frac{3}{4}$ in.

In Aluminium. Contains sixteen tubes of 'Tabloid' Hypodermic products, eleven tubes of 'Tabloid' Ophthalmic products, two camel-hair brushes, a pair of minute forceps, and a booklet giving a summary of the chief uses of the products.

MEDICINE POCKET-CASES 'TABLOID' BRAND

[See B. W. & Co.]

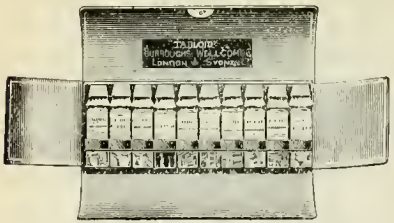
Special Designs, the property of Burroughs Wellcome & Co.

The word 'Tabloid' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

'Tabloid' Medicine Pocket-Cases are compact equipments of pure, active drugs, divided, ready for administration, into accurate doses. They enable physicians to have always with them an equipment of reliable medicines especially for emergency use. In country districts, and for travelling, 'Tabloid' Pocket-Cases are recognised as an essential in the physician's equipment.

For Emergencies

No. 115. 'Tabloid' Brand Medicine Pocket-Case

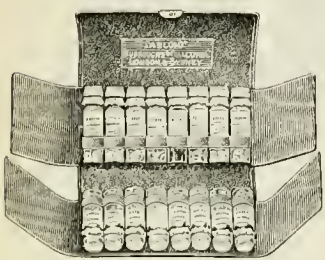


No. 115. 'Tabloid' Brand Medicine Pocket-Case

Measurements, $8\frac{3}{4} \times 3\frac{3}{4} \times 1\frac{1}{2}$ in.

Contains ten ½ oz. phials filled with 'Tabloid' Brand products, etc. In Seal, Pigskin, Cowhide, Morocco and other fine leathers.

No. 117. 'Tabloid' Brand Medicine Pocket-Case

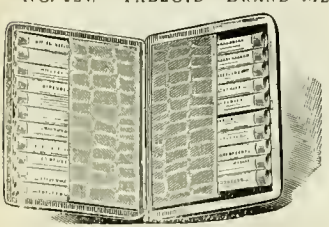


No. 117. 'Tabloid' Brand Medicine Pocket-Case

Measurements, $7\frac{1}{2} \times 4 \times 3$ in.

This Case is somewhat larger and more comprehensive than the No. 115 Case. It contains sixteen ½ oz. phials of 'Tabloid' Brand products, etc. In Cowhide, Pigskin, Crocodile, Morocco and other fine leathers.

No. 124. 'Tabloid' Brand Medicine Pocket-Case



No. 124. 'Tabloid' Brand Medicine Pocket-Case

Measurements, $5\frac{1}{2} \times 4 \times 1\frac{1}{2}$ in.

Fitted with from sixteen to twenty-four tubes of 'Tabloid' Brand products, according to size of products. In Seal, Crocodile, Morocco and other fine leathers. This case was specially designed for conveniently carrying in the breast pocket on ordinary occasions a stock of medicines sufficient to meet a variety of circumstances.

No. 125. 'Tabloid' Brand Medicine Pocket-Case

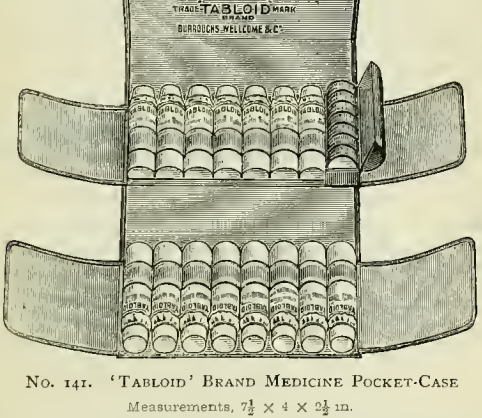


No. 125. 'Tabloid' Brand Medicine Pocket-Case

Measurements, $6\frac{1}{2} \times 4 \times 1\frac{1}{2}$ in.

Specially fitted for emergency purposes with fourteen tubes of 'Tabloid' Brand products, and a removable tray containing a hypodermic equipment of twelve tubes of 'Tabloid' Hypodermic products, B. W. & Co. nickel-plated hypodermic syringe, and two regular steel needles. In Cowhide and other fine leathers.

No. 141. 'Tabloid' Brand Medicine Pocket-Case



No. 141. 'Tabloid' Brand Medicine Pocket-Case

Measurements, $7\frac{1}{2} \times 4 \times 2\frac{1}{2}$ in.

In Morocco leather. Fitted with fifteen half-ounce phials of 'Tabloid' Brand products, and a leather-covered metal compartment, containing pill boxes for the physician's use in distributing the contents of the case. Similar in design to No. 117.

For full particulars of these and numerous other examples, see General Price List.

CYCLE-, CARRIAGE- AND MOTOR-CAR CASES
MEDICAL EQUIPMENT CHESTS, ETC.
'TABLOID' BRAND

[℠ B. W. & Co.]

Special Designs, the property of Burroughs Wellcome & Co.

The word 'Tabloid' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

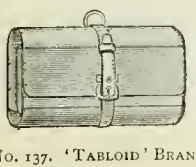
For General Practitioners

'Tabloid' Cycle-, Carriage-, Motor-Car and Equipment Cases contain 'Tabloid,' 'Soloid' and other fine products of B. W. & Co., minor surgical instruments and sundry emergency dressings. A great variety is prepared to meet the requirements of medical men in home practice, according to the extent and the special character of their needs. For those who cycle, cases are made in various designs, one for attaching to the handle-bar of the cycle, another for attaching to the stay-bar, and others for the pocket.

For Physicians, Explorers, Missions, Armies, etc.

'Tabloid' Medical Equipment Cases provide complete portable dispensaries for practitioners in distant stations, missionaries, explorers and expeditions of all kinds. For such purposes they are the only really satisfactory form of medical equipment, and have been adopted universally. In addition to full supplies of accurately dosed, permanent and reliable drugs, these equipments contain minor surgical instruments and dressings.

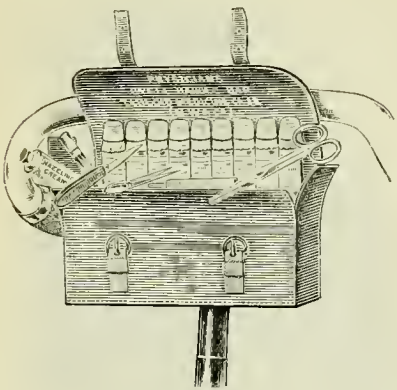
No. 137. 'TABLOID' BRAND MEDICINE SADDLE-CASE



No. 137. 'TABLOID' BRAND MEDICINE SADDLE-CASE

In Cowhide or Pigskin. Measurements, $7\frac{1}{4} \times 4\frac{1}{4} \times 2\frac{3}{4}$ in. Fitted in the same way as No. 117 with sixteen half-ounce phials of 'Tabloid' Brand products, etc. This case is also supplied fitted with feather-weight containers. (No. 139.) Measurements, $7\frac{1}{4} \times 4\frac{1}{2} \times 2\frac{3}{4}$ in.

No. 200. Physician's Cycle Handle-Bar 'Tabloid' Brand Medicine Case



No. 200. Physician's Cycle Handle-Bar 'Tabloid' Brand Medicine Case

In black enamelled Cowhide. Outside measurements, $8\frac{1}{4} \times 2\frac{1}{2} \times 4\frac{1}{4}$ in. Fitted complete with nine ½-oz. phials of 'Tabloid' Brand products, minor surgical instruments and sundry emergency dressings. Weight, empty, $8\frac{1}{4}$ oz.; full, about $1\frac{1}{2}$ lb.

No. 202. Physician's Cycle Stay-Bar 'Tabloid' Brand Medicine Case

In black enamelled Cowhide. Outside measurements, 10 × $2\frac{3}{4}$ × 5 in. Fitted complete with twelve ½-oz. phials of 'Tabloid' Brand products, minor surgical instruments and dressings. Similar in design to No. 200.

No. 209. 'Tabloid' Brand Medicine Case

In Morocco leather, Cowbide or Pigskin. Outside measurements, 10 × 5 × $6\frac{1}{2}$ in. Contains nine 1 oz., twenty-four ½-oz., and thirteen 2 dr. phials of 'Tabloid' and 'Soloid' Brand products; medicine measure, extra pockets, and loops for instruments; twelve tubes of 'Tabloid' Hypodermic products, B. W. & Co. patent nickel-plated hypodermic syringe, two regular steel needles, etc.

No. 219. 'Tabloid' Brand Medicine Case

Measurements, $13\frac{1}{2} \times 6 \times 6\frac{1}{4}$ in. Metal frame. Contains eight 2 oz. stoppered, ten 1 oz., twelve 6 dr., eight 4 dr. and ten 2 dr. corked phials. The rows of phials are arranged to fall so as to show the labels. Fitted with 'Tabloid' and 'Soloid' Brand products, twelve tubes of 'Tabloid' Hypodermic products, B. W. & Co. patent nickel-plated hypodermic syringe, with two regular steel needles, etc. Made in Morocco leather.

No. 208. 'Tabloid' Brand Medicine Chest



No. 208. 'Tabloid' Brand Medicine Chest

Made of dressed and varnished raw-hide; very light, portable and durable. Outside measurements, $15\frac{1}{2} \times 5\frac{1}{4} \times 9$ in. Fitted with twelve 4 oz. stoppered bottles of 'Tabloid' and 'Soloid' Brand products, minor surgical instruments and dressings, etc.

A similar case is also made in a smaller size (No. 206). Outside measurements, $14\frac{1}{2} \times 4\frac{1}{2} \times 7\frac{1}{4}$ in. Fitted with twelve $2\frac{1}{2}$ oz. stoppered bottles of 'Tabloid' and 'Soloid' Brand products, etc. (as carried by Mr. Thos. Stevens).

No. 220. 'Tabloid' Brand Medicine Case

In Morocco or Cowhide. Measurements, $14 \times 5\frac{1}{2} \times 9\frac{1}{2}$ in. Phials arranged in tiers to display labels. Contains eight 2 oz. stoppered, twelve 1 oz., fourteen 6 dr., and sixteen 4 dr. phials of 'Tabloid' and 'Soloid' Brand products, twelve tubes of 'Tabloid' Hypodermic products, B. W. & Co. nickel-plated hypodermic syringe, needles, space and loops for instruments, etc. Similar in design to No. 221 Case.

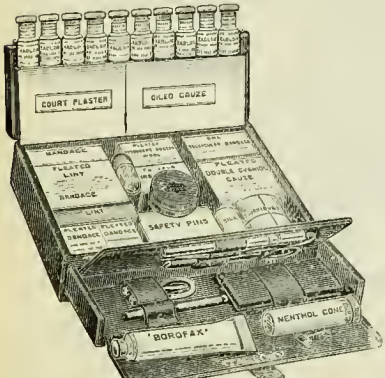
No. 221. 'Tabloid' Brand Medicine Case



No. 221. 'Tabloid' Brand Medicine Case

In *extra finish* Cowhide, Morocco, Crocodile and other fine leathers. Measurements, 14 × 5½ × 9½ in. Fitted in the same way as No. 220 Case, with the addition of nine 2 dr. phials of 'Tabloid' and 'Soloid' Brand products, and a glass-stoppered and capped ether bottle.

No. 230. 'Tabloid' Brand Medicine Case



No. 230. 'Tabloid' Brand Medicine Case

A Morocco leather or Cowhide case, which when closed measures 8 × 5½ × 2½ in. Fitted with ten phials of 'Tabloid' and 'Soloid' Brand products, minor surgical instruments and dressings.

It provides a small but very comprehensive medical and surgical outfit. The physician will find this an extremely serviceable case for a patient travelling abroad, where at times he may be beyond the reach of professional aid. Conveniently shaped for packing in trunk or bag.

No. 231. 'Tabloid' Brand Medicine Case

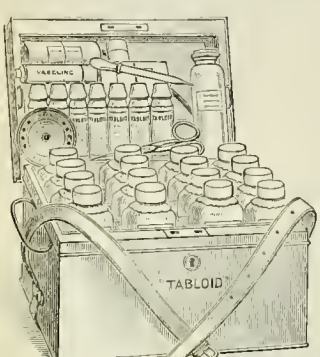
(As suggested by Sir W. Moore)



In black japanned metal. Measurements, $10\frac{3}{4} \times 7\frac{1}{2} \times 3$ in. Contains fifteen 1 oz. corked phials, and one 4 oz. corked bottle; minor surgical instruments and dressings. Complete with 'Tabloid' Brand products, etc., as recommended in Sir W. Moore's *Manual of Family Medicine for India*.

No. 231. 'Tabloid' Brand Medicine Case

No. 254. 'Tabloid' Brand Medicine Chest (The Indian)



Made of japanned metal. Measurements, $9\frac{1}{2} \times 7 \times 6\frac{1}{2}$ in. Contains sixteen $1\frac{3}{8}$ oz. glass-stoppered bottles, and from six to eight 4 dr. phials of 'Tabloid' and 'Soloid' Brand products, instruments and tray carrying sundry dressings, etc. Weight about 12 lb. As carried by G. W. Steevens, the war correspondent.

No. 254. 'Tabloid' Brand Medicine Chest
(The Indian)

No. 227. 'Tabloid' Brand Medicine Case

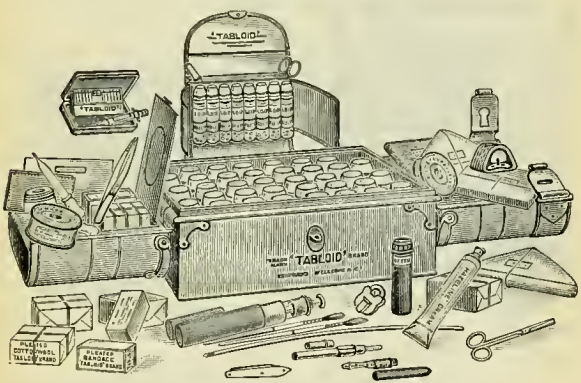
In Cowhide or Pigskin. Measurements, $6\frac{1}{2} \times 3\frac{3}{4} \times 3$ in. Made of two metal cups and frames covered with leather. Arranged to contain twenty $1\frac{1}{2}$ dr., twelve 1 dr., and fourteen $\frac{1}{2}$ dr. tubes of 'Tabloid' and 'Soloid' Brand products. Weight about 2 lb. 6 oz.

No. 229. 'Tabloid' Brand Medicine Case

Measurements, $8\frac{1}{2} \times 5\frac{1}{4} \times 3\frac{3}{4}$ in. Made of two metal cups and frames covered with cowhide. Arranged to contain forty 4 dr. phials of 'Tabloid and 'Soloid' Brand products. Weight about 4 lb. 13 oz.

No. 250. 'Tabloid' Brand Medicine Chest

(As supplied to Sir H. M. Stanley, Emin Pasha, Military Expeditions, Missionaries, etc.)



No. 250. 'Tabloid' Brand Medicine Chest

Measurements, $15\frac{3}{4} \times 10\frac{1}{2} \times 8\frac{1}{4}$ in. Made of japanned sheet-steel. Contains six 5 oz. and thirty $3\frac{1}{2}$ oz. glass-stoppered bottles of 'Tabloid,' 'Soloid' and other fine products of B. W. & Co. in movable teak-wood tray. The lid (in two sections) is arranged to hold supplies of dressings, bandages, minor surgical instruments and other accessories. Weight, when fitted, about 40 lb.

No. 251. 'Tabloid' Brand Medicine Chest

(As supplied to the Jackson-Harmsworth Polar Expedition, The National Antarctic Expedition, etc.)

Made of aluminium. Measurements, $15\frac{3}{4} \times 10\frac{1}{2} \times 8\frac{1}{4}$ in. Contains forty $3\frac{1}{2}$ oz. feather-weight bottles of 'Tabloid,' 'Soloid' and other fine products of B. W. &. Co. In other respects it is fitted in the same way as the No. 250 Chest. Weight, when complete, about 27 lb.

No. 256. 'Tabloid' Brand Medicine Chest

(As supplied to the Duke of the Abruzzi's Polar Expedition)

Measurements, 10½ × 6 × 7½ in. Fitted with eighteen 3½ oz. featherweight containers of 'Tabloid' and 'Soloid' Brand products, and a tray containing minor dressings and sundries. Made in aluminium.

A similar case is supplied in black japanned metal and is known as No. 255. The contents are the same as No. 256, with the exception that the 'Tabloid' and 'Soloid' Brand products are in glass-stoppered bottles.

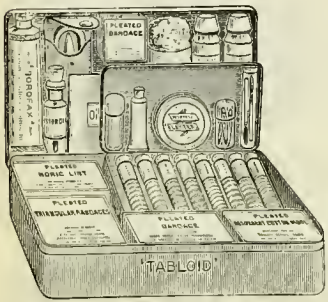
No. 258. 'Tabloid' Brand Medicine Chest (The Settler's)



No. 258. 'Tabloid' Brand Medicine Case
(The Settler's)

Made of black japanned metal. Measurements, 8¾ × 4¼ × 5¾ in. Contains twelve 1½ oz. bottles of 'Tabloid' and 'Soloid' Brand products, 'Hazeline' Cream, Pleated Compressed Bandages and Dressings, Adhesive Plaster and other accessories.

No. 259. 'Tabloid' Brand Medicine Case
(The Motor-Car Case)



No. 259. 'Tabloid' Brand Medicine Case
(The Motor-Car Case)

Made of black japanned metal. Measurements, 7½ × 4¼ × 2 in. Contains eight tubes of 'Tabloid' and 'Soloid' Brand products, Sal Volatile, 'Borofax,' Carron Oil, plaster, 'protective skin,' Pleated Compressed Bandages and Dressings, pins, scissors, etc., etc.

ANTIDOTE CASE

'TABLOID' BRAND

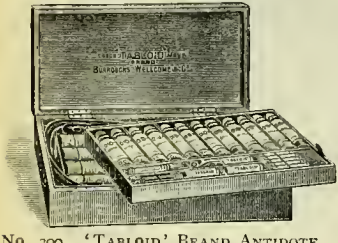
[℠ B. W. & Co.]

Special Design, the property of Burroughs Wellcome & Co.

The word 'Tabloid' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

A compact equipment, containing instruments and drugs ready for immediate use in the treatment of poisoning.

No. 300. 'TABLOID' BRAND ANTIDOTE CASE



No. 300. 'TABLOID' BRAND ANTIDOTE CASE.

Measurements, 12 × 6 × 3 in. Fitted with stomach syphon-tube, catheter, B. W. & Co. nickel-plated hypodermic syringe, two needles, 'Tabloid' Hypodermic products, 'Vaporole' Amyl Nitrite, toxicological chart, and twenty-one ½ oz. phials of 'Tabloid' Brand Antidotes, etc.

ANALYSIS CASES

'SOLOID' BRAND

[℠ B. W. & Co.]

Special Designs, the property of Burroughs Wellcome & Co.

The word 'Soloid' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

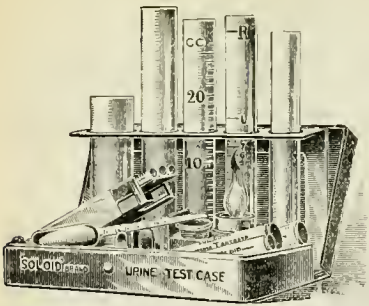
No. 510. 'SOLOID' BRAND URINE TEST CASE

The clinical importance of urine analysis is fully recognised.

Urine Analysis instantly at the bedside

This case provides, in a most compact and convenient form, all the requirements for making an examination of urine at the bedside. Owing to their purity and accuracy, the 'Soloid' Brand products contained in this case make reliable test solutions without further weighing.

In polished nickel-plated metal, easily kept aseptic. It contains a complete set of material for making an examination of urine, both qualitative and quantitative, for albumin, sugar, etc. The outfit includes a urinometer, Esbach's albuminometer, a graduated measure, pipette, test tubes and stand, test papers, spirit lamp, analysis charts, and a good supply of the ever-ready 'Soloid' reagents, including Fehling's Test, Indigo Test, Picric Acid, Potassium Ferrocyanide and Citric Acid.



No. 510. 'Soloid Brand Urine Test Case

Measurements, $5\frac{3}{4} \times 2\frac{3}{4} \times 1\frac{1}{4}$ in.

Each portion of the apparatus can also be obtained separately.

No. 500. 'Soloid' Brand Water Analysis Case

This convenient hand-case supplies all the apparatus, reagents, etc., necessary for examining samples of drinking water at the source of supply, and for drawing up the usual reports concerning suitability of the water for domestic purposes.

Analysis instantly at source

Measurements, $12\frac{1}{2} \times 10\frac{1}{2} \times 4\frac{3}{4}$ in. It contains a nickel evaporating dish, Erlenmeyer flask, tripod, spirit lamp, 100 c.c. and other graduated cylinders, capsules of 'Soloid' Nessler's Solution, 'Soloid' Brand products of Silver Nitrate, Potassium Iodide and Starch, Potassium Permanganate, Potassium Chromate, Meta-phenylenediamine Sulphate, Potassium Ferrocyanide, Sodium Acid Sulphate, Soap, Zinc Dust, etc.



No. 500. 'Soloid' Brand Water Analysis Case

For fuller particulars of these and other examples, see General Price List

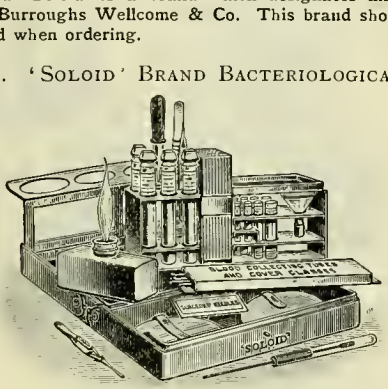
BACTERIOLOGICAL CASE 'SOLOID' BRAND

[B. W. & Co.]

Special Design, the property of Burroughs Wellcome & Co.

The word 'Soloid' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

No. 505. 'SOLOID' BRAND BACTERIOLOGICAL CASE



No. 505. 'SOLOID' BRAND BACTERIOLOGICAL CASE

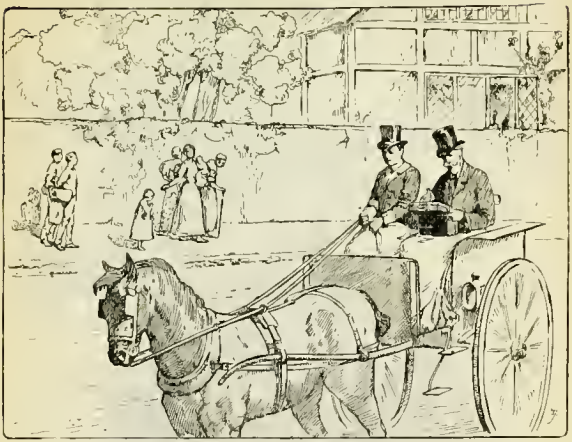
Measurements, 5 × 3½ × 1⅝ in.

This case enables medical men to carry out examinations that formerly were usually submitted to laboratory workers. Owing to its small size and light weight it can readily be carried in the pocket to the patient's bedside, to obtain a blood specimen or a throat swab. The case is made of polished metal, easily kept aseptic, and contains:

Three stoppered bottles containing—
- Methyl alcohol, dr. 1½
- Absolute alcohol, dr. 1½
- Distilled water, dr. 1½

A rod-stoppered bottle of Canada Balsam
A graduated pipette
Two forceps
12 Microscopic slides
A spirit lamp
A glass funnel
2 watch glasses
A metal case of needles (straight No. 9)
A packet of filter papers
12 blood-collecting pipettes
50 cover slips
A glass rod for powdering microscopic stains, etc.
A sterile swab
A tube each of the following 'Soloid' stains—
- Eosin, Methyl Violet, Fuchsine, Romanowsky Stain, Eosin-Methylene Blue, Hæmatoxylin (Delafield), Toison Blood Fluid.

'Tabloid' Medical Equipments at Home and Abroad



In Rural Practice

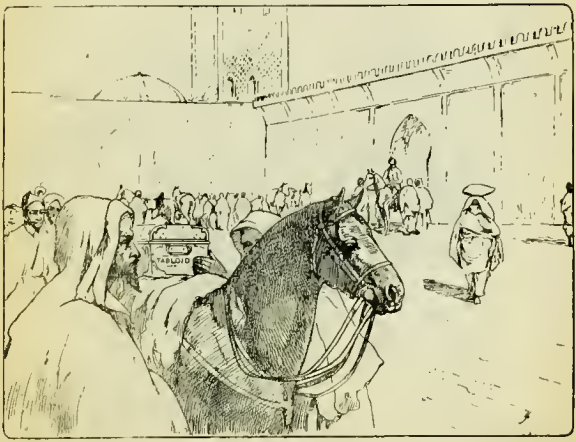


In Arctic and Antarctic Exploration

'TABLOID' MEDICAL EQUIPMENTS AT HOME AND ABROAD

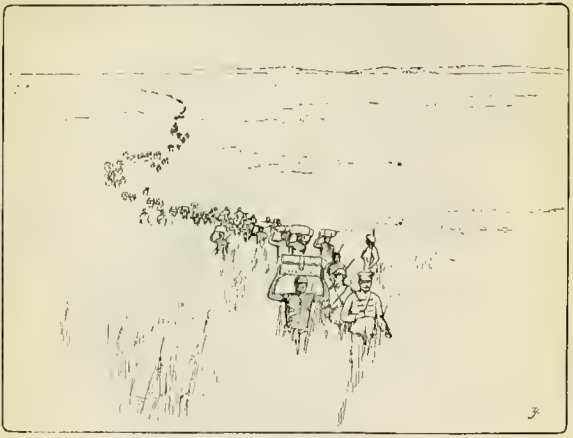


IN EGYPT

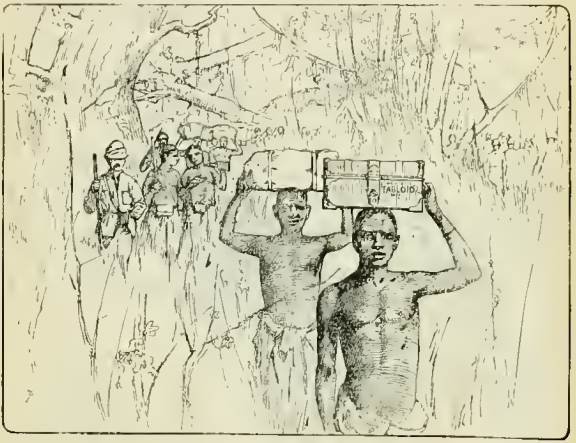


IN MOROCCO

'TABLOID' MEDICAL EQUIPMENTS AT HOME AND ABROAD

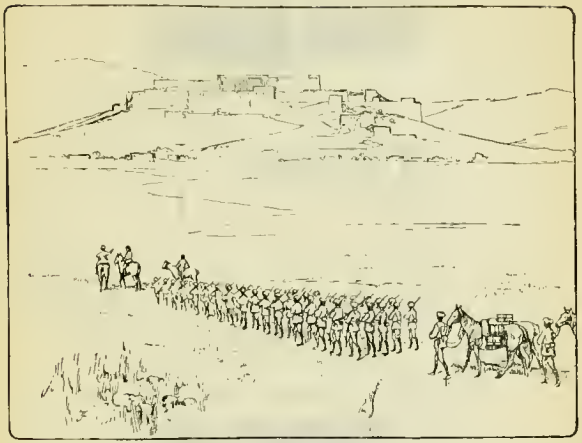


IN CENTRAL AFRICA



THROUGH DARKEST AFRICA

'Tabloid' Medical Equipments at Home and Abroad



In Thibet



In China

THE

Trade Marks

'Tabloid'
AND
'Soloid'

} Invented By B. W. & Co.

Are
B. W. & Co.

Half Marks

They *mark* the work of
Burroughs Wellcome & Co.

They *mean* "Issued by
Burroughs Wellcome & Co."

They *stand* for

24 CARAT products.

FORMULARY

OF

FINE PRODUCTS

ISSUED BY

BURROUGHS WELLCOME & CO.

For full details, see General Price List

'Alaxa' *(Trade Mark)* — DOSE

An aromatic liqueur which presents the tonic, laxative properties of cascara sagrada in a pleasant and acceptable condition. — One-half to two teaspoonfuls.

Alkaloids, 'Wellcome' Brand *(see* page 169*)*

Ammonium Chloride Inhaler, 'Vereker'

Anæsthetics, Local *(see* 'Tabloid' Hypodermic Anæsthetic Compounds, page 115*)*

Antidote Case, 'Tabloid' Brand *(see* page 99*)*

'Aol,' a derivative of *Santalum album* *(see* 'Tabloid' Brand Products, page 140*)* *(Trade Mark)*

Bacteriological Case, 'Soloid' Brand *(see* page 101*)*

Bandages, Pleated, Compressed, 'Tabloid' Brand *(see* page 110*)*

Beef and Iron Wine, 'Bivo' *(Trade Mark)* — DOSE

A pure detannated wine, each tablespoonful of which contains, in an agreeable and highly-concentrated condition, the stimulating properties of fresh beef, with the equivalent of half a grain of iron, in a readily assimilable form. — One teaspoonful for children, to one tablespoonful for adults.

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Borofax' (*Trade Mark*) An emollient possessing antiseptic and sedative properties.

Brockedon Products

Burroughs Wellcome & Co. are the successors to, and sole proprietors of, the business of Brockedon, who, in 1842, ORIGINATED COMPRESSED MEDICINES in the shape of bi-convex discs—issued under the designation of COMPRESSED PILLS.

'Brockedon' Brand Bicarbonate of Soda, in boxes of two sizes

,, ,, ,, ,, Potass ,, ,,

,, ,, Chlorate ,, ,, ,, ,,

Chemicals, 'Wellcome' Brand *(see page 169)*

CHESTS AND CASES (B. W. & Co.)

A comprehensive selection of chests and cases fitted with medicines for every variety of climate, from the fully-equipped chests containing supplies sufficient for medical officers to expeditions, etc., down to the compact pocket-cases suited to the needs of the private practitioner, are prepared and issued under the 'Tabloid' Brand.

For complete list and exact descriptions, see General Price List

Analysis Cases, 'Soloid' Brand *(see page 99)*

Antiseptic Cases, 'Soloid' Brand

Fitted with from four to eighteen containers of 'Soloid' Brand Antiseptics.

Hypodermic Pocket-Cases, 'Tabloid' Brand *(see pages 85-87)*

Medicine Chests and Cases, 'Tabloid' Brand *(see pages 89-98)*

DRESSINGS, PLEATED, COMPRESSED 'TABLOID' Brand

The introduction of Pleated Compressed Bandages and Dressings marks an important advance in the preparation of surgical accessories. These bandages and dressings are made of material of the best quality, and are subjected to great pressure under which each assumes a rectangular shape. After compression, each is enclosed automatically in an impervious covering of parchment paper.

Important advance

The requirements of modern surgical treatment are so imperfectly fulfilled by many of the cheaper commercial dressings that the superiority of the pleated products of Burroughs Wellcome & Co. is at once evident. Their important advantages may be thus summarised :—

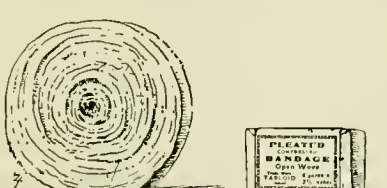
1. Only materials of exceptional quality are used in their manufacture, and their general excellence commends them to critical users.

2. They occupy the smallest possible space and yet can be unfolded as easily as those previously in use.

3. They are kept free from all risk of contamination.

4. The antiseptic dressings are evenly charged with medicament.

5. By reason of their extreme compactness they are by far the best for the hand-bag and cycle or saddle-case.



The ordinary open-wove bandage of commerce. 6 yards × 2½ in.

Pleated Compressed Bandage. 6 yards × 2½ in.

The above illustration graphically demonstrates the saving in

Dressings, Pleated, Compressed, 'Tabloid' Brand—*continued*

space which is effected when Pleated Bandages and Dressings are carried. The relative sizes of an ordinary and a Pleated Bandage are striking. The flat sides of Pleated Bandages enable them to be packed in a fraction of the space required by those previously in use.

These dressings are also issued *sterilised* in special impervious coverings. The requirements of modern surgical treatment, so imperfectly fulfilled by many of the cheap commercial dressings, are ideally met by these sterilised pleated products.

The following are issued :—

Pleated Bandages—

Open Wove, 1 in. × 6 yards, in packages of 1 dozen
,, ,, 2½ in. × 6 yards ,, ,, ,, ,,
Flannel, 2½ in. × 5 yards ,, ,, ,, ,,
Triangular (Esmarch's Pictorial),, ,, ,, 1 dozen packets of 2 bandages

These triangular bandages are of great service in first-aid or other emergency work. For the benefit of those who are unable to obtain skilled assistance, illustrations showing the various uses to which the bandage may be put, are imprinted on the fabric itself.

Pleated Cotton Wool—

Absorbent,	1	ounce	packets,	in packages of	1 dozen
,,	2	,,	,,	,,	,,
Boric,	1	,,	,,	,,	,,
,,	2	,,	,,	,,	,,
Double Cyanide,	1	,,	,,	,,	,,
,, ,,	2	,,	,,	,,	,,
Iodoform,	1	,,	,,	,,	,,
,,	2	,,	,,	,,	,,

Pleated Gauze—

Absorbent,	3 yards,	in packages of	1 dozen	
Boric,	3	,,	,,	,,
Double Cyanide,	3	,,	,,	,,
Iodoform,	3	,,	,,	,,
,,	1 yard		,,	,,
,,	1 in. × 6 yds.		,,	,,

Dressings, Pleated, Compressed, 'Tabloid' Brand—*continued*

Pleated Gauze—*continued*

Sal Alembroth, 3 yards, in packages of 1 dozen

Pleated Lint—

Plain,	1	ounce	packets,	in packages of	1 dozen
,,	2	,,	,,	,,	,,
Boric,	1	,,	,,	,,	,,
,,	2	,,	,,	,,	,,
Carbolised	1	,,	,,	,,	,,

Pleated Tow—

Carbolised, 2 ounce packets, in packages of 1 dozen.

Pleated Tissue—

Absorbent Wool between Gauze, 2 ounce packets, in packages of 1 dozen.

DRESSINGS, SURGICAL, 'WELLCOME' Brand—

(NOT COMPRESSED)

Cotton Wool, Double Cyanide, 3%—

In 8 ounce and 16 ounce packets.

Ear Drums, Artificial (Dr. Ward Cousins' design)—

A perfect protective to the inner ear. Made in four sizes.

'ELIXOID' Brand Products—

(*Trade Mark*)

,, Ammonium Valerianate—

Bottles containing 8 fluid ounces.

,, Pine Tar Compound—

Bottles containing 4 fluid ounces.

,, Formates Compound—

Each fluid ounce contains:—Calcium Formate, gr. 12; Sodium Formate, gr. 6; Magnesium Formate, gr. 6.

Bottles containing 4 fluid ounces.

Also various other preparations issued under the 'Elixoid' Brand.

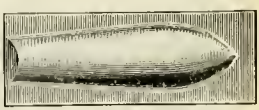
Trade Mark 'ENULE' BRAND RECTAL SUPPOSITORIES

The word 'ENULE' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

The 'Enule' rectal suppository possesses conspicuous advantages over those of the ordinary conical shape, which are difficult to introduce, and are sometimes even expelled, 'Enule' suppositories are encased in sheaths of pure tinfoil, easily stripped off at the moment of using. They contain accurate doses of pure drugs, their active principles are evenly diffused throughout the mass, and they will retain the full activity of the medicament for a long period of time.



Enule' Brand Rectal Suppository after removal of sheath. This shape originated by Burroughs Wellcome & Co.



'Enule' Brand Rectal Suppository showing sheath of pure tinfoil. This shape originated by Burroughs Wellcome & Co.

Expert opinion

PROF. CASPARI, in bis *Treatise on Pharmacy*, says:—

"The usual shape of rectal suppositories is that of a cone with a rounded apex, but the difficulty of readily introducing them into the rectum has led to the designing of a new shape by H. S. Wellcome, of London, the great advantages of which become apparent when it is remembered that the bulbous end is inserted into the rectum, and, that as soon as the greatest diameter has been passed, expulsion of the suppository is impossible, by reason of the very contractile force of the sphincter muscle, which renders retention of the ordinary conical shape often so difficult."

Each kind is packed in boxes of a dozen (of one strength)

'Enule' BRAND—		DIRECTION
,, Belladonna Extract	gr. 1/4 and gr. 1/2	One as required
,, Bismuth Subgallate	gr. 10	One as required
,, Cocaine Hydrochloride	gr. ½	One as required
,, Gall and Opium	... ... R Acidi Tannici ... ... gr. 3 Ext. Opii ... ... gr. 1/4	One as required
,, Glycerin (Anhydrous)	95 % Adults' or Children's sizes	One as required

Enule Brand Rectal Suppositories—*continued*

'**Enule**' BRAND—*continued*		DIRECTION
,, 'Hazeline' Compound	Containing 'Hazeline,' Extract of Hamamelis and Zinc Oxide. (*See* also 'Hazeline' Suppositories).	One as required
,, Lead and Opium		One as required
℞ Plumbi Acetatis ... .. gr. 3 Pulv. Opii ... ... gr. 1		
,, Meat (Predigested)	Children's and Adults' sizes.	One as required
Containing gr. 8½ and gr. 15, respectively, of concentrated peptone from choice fresh beef.		
,, Milk (Predigested)	Children's and Adults' sizes.	One as required
Containing gr. 10 and gr. 18, respectively, of concentrated peptone from new milk.		
,, Morphine and Belladonna		One as required
℞ Morphinæ Hydrochloridi ... gr. 1/4 Ext. Belladonnæ ... ... gr. 1/2		
,, Morphine Hydrochloride	gr. 1/4, gr. 1/2 and gr. 1	One as required
,, Opium Extract ...	gr. 1	One as required
,, Quassin (Amorphous)	gr. ½	One on each of at least twelve successive nights
,, Quinine Bisulphate	gr. 5	One as required
,, Santonin	gr. 3	One as required
,, Soap Compound		One as required
℞ Saponis Animalis ... ... gr. 7 Sodii Sulphatis Exsiccati ... gr. 7		

Also various other products issued under the 'Enule' brand.

'Enule' Brand Rectal Suppositories must be kept in a cool and dry place.

'ERNUTIN'

(Trade Mark)

'Ernutin' is a physiologically standardised product, presenting the active therapeutic principle of Ergot. It is the result of extensive researches in the Wellcome Physiological Research Laboratories.

'Ernutin'—(For oral administration), in 1 ounce bottles.

'Ernutin' (Hypodermic)—For hypodermic and intramuscular injection. In hermetically-sealed phials, each containing min. 10. Boxes of 6.

Gauze, Pleated, Medicated, Compressed, 'Tabloid' Brand (*see* pages 110, 111)

Trade Mark 'HAZELINE' BRAND PREPARATIONS

		DOSE
'Hazeline' Brand of distilled *Hamamelis virginiana.*	An anodyne and styptic fluid obtained by distillation from the fresh young twigs.	dr. 1 to dr. 3
'Hazeline' Cream, in collapsible tubes and glass pots.	Combines the anodyne astringent properties of 'Hazeline' with the emollient action of 'Dartring' Lanoline.	—
"'Hazeline' Snow," in glass pots.	A non-greasy preparation, owing its astringent, soothing and healing properties to the presence of a high proportion of 'Hazeline.'	—
'Hazeline' Suppositories	Containing pure 'Hazeline'	One as required

(*See* also 'Enule' 'Hazeline' Compound)

Also various other products issued under the 'Hazeline' Brand.

HYPODERMIC APPARATUS

Needles for B. W. & Co. Syringes—

(For full list, see B. W. & Co.'s General Price List)

Hypodermic Apparatus—*continued*

SYRINGES

All-Glass Aseptic Hypodermic Syringe, The B. W. & Co.

Barrel, piston and nozzle consist entirely of glass. The solid piston obviates use of packing. May be instantly taken apart for rendering aseptic. Two sizes, min. 15 and min. 20, with two steel needles. A detachable finger-grip (nickel-plated) for this syringe can be supplied.

(If desired, platino-iridium needles can be fitted)

Hypodermic Syringe, The B. W. & Co.

Solid Silver. Nozzle detachable, so that the solution of a 'Tabloid' Hypodermic product may be effected in the barrel. With two platino-iridium needles, in case. Capacity, min. 20.

Hypodermic Syringe, The B. W. & Co.

Nickel-plated. With two needles. Capacity, min. 15 or min. 20.

(If desired, platino-iridium needles can be fitted)

Serum Syringe, The B. W. & Co. All-Glass Aseptic

The working parts are composed entirely of glass, the needle being attached to the nozzle by a flexible rubber joint which guards against fracture. In five sizes, 2 c.c., 3 c.c., 5 c.c., 10 c.c. and 25 c.c., with two steel needles in metal case.

(If desired, platino-iridium needles can be fitted)

Serum Syringe, The B. W. & Co. Nickel-plated

In metal case, complete, with two platino-iridium needles, capacity 5 c.c. or 10 c.c.

HYPODERMIC PRODUCTS, 'TABLOID' Brand

The word 'TABLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

"They are quite free from objectionable and irritative salts."
—*British Medical Journal.*

Hypodermic Products, 'Tabloid' Brand—*continued*

"They are very soluble and not at all irritating."—*Lancet.*

'Tabloid' Hypodermic products accurately contain the stated weight of pure medicament. They are rapidly soluble, of uniform activity, and they keep perfectly. They are packed in tubes containing 20, with the exception of those marked with an asterisk, which are in tubes of 12.

PREPARATION	STRENGTH	DOSE
'TABLOID' BRAND (Hypodermic)—		
,, Aconitine Nitrate ...	... gr. 1/640	gr. 1/640
,, *Anæsthetic Compound, A ...		As required
℞ Cocainæ Hydrochloridi...	gr. 1/10	
Morphinæ Hydrochloridi	gr. 1/50	
Sodii Chloridi	gr. 1/5	
,, *Anæsthetic Compound, B ...		As required
℞ Cocainæ Hydrochloridi...	gr. 1/5	
Morphinæ Hydrochloridi	gr. 1/50	
Sodii Chloridi	gr. 1/5	
,, *Anæsthetic Compound, C ...		As required
℞ Eucainæ Hydrochloridi	gr. 7/16	
Sodii Chloridi	gr. 3-1/2	
,, Apomorphine Hydrochloride	gr. 1/20	gr. 1/20 to gr. 1/10
,, ,, ,,	gr. 1/15	
,, ,, ,,	0·005 gm.	
,, ,, ,,	gr. 1/10	
,, * Apomorphine Hydrochloride	gr. 1/10	One
,, * Strychnine Hydrochloride ...	gr. 1/60	
,, Atropine Sulphate ...	... gr. 1/150	gr. 1/200 to gr. 1/100 (increased)
,, ,, ,, ...	... gr. 1/100	
,, ,, ,, ...	...0·001 gm.	
,, ,, ,, ...	... gr. 1/60	
,, *Caffeine Sodio-salicylate	... 0·03 gm.	gr. 1/2 to gr. 4
,, * ,, ,, ,,	... gr. 1/2	
,, Cocaine Hydrochloride	... gr. 1/10	gr. 1/10 to gr. 1/2
,, ,, ,,	... 0·01 gm.	
,, ,, ,,	... gr. 1/6	
,, * ,, ,,	...0·015 gm.	
,, * ,, ,,	... gr. 1/4	
,, * ,, ,,	... 0·02 gm.	
,, * ,, ,,	... gr. 1/2	

* *In tubes of* 12 *only (all others contain* 20*)*

Pharmacopœial preparations are U.S.P. unless otherwise stated

Hypodermic Products, 'Tabloid' Brand—*continued*

PREPARATION	STRENGTH	DOSE
'TABLOID' BRAND (Hypodermic)—*continued*		
,, Codeine Phosphate ...	... gr. 1/4	gr. 1/4 to gr. 2
,, Cotarnine Hydrochloride	... gr. 1/4	gr. 1/4 to gr. 1/2
,, Curare	... gr. 1/12	gr. 1/12 to gr. 1/2
,, Digitalin (Amorphous)	... gr. 1/100	gr. 1/500 to
,, ,, (Crystalline)	0·0005 gm.	gr. 1/30
,, Digitalin (Amorphous) / Strychnine Sulphate	... gr. 1/100 / ... gr. 1/100	One
,, Ergotinine Citrate ...	... gr. 1/200	gr. 1/200 to
,, ,, ,, ...	0·0005 gm.	gr. 1/50
,, ,, ,, ...	... gr. 1/100	
* ,, Ergotinine Citrate ... / Morphine Sulphate ...	... gr. 1/100 / ... gr. 1/6	One
* ,, Ergotinine Citrate ... / Strychnine Sulphate...	... gr. 1/100 / ... gr. 1/20	One
,, *Ergotoxine	... gr. 1/100	gr. 1/100 to gr. 1/50
,, *Eucaine Hydrochloride	... gr. 1/3	gr. 1/3 to gr. 2
,, * ,, ,,	... gr. 1	
,, *Eucaine Lactate ...	... gr. 1/3	gr. 1/3 to gr. 2
,, * ,, ,, ...	... gr. 1	
,, Homatropine Hydrochloride...	gr. 1/250	gr. 1/250 to gr. 1/20
,, Hydrargyri Chloridi Corrosivi *(see Mercuric Chloride)*		
,, Hydrargyri Succinimidi *(see Mercuric Succinimide)*		
,, Hyoscine Hydrobromide	... gr. 1/200	gr. 1/200 to
,, ,, ,,	... gr. 1/100	gr. 1/100 (increased)
,, * ,, ,,	... gr. 1/75	
,, *Hyoscine Compound, A		One
℞ Hyoscinæ Hydrobromidi ... gr. 1/100 Morphinæ Sulphatis ... ... gr. 1/6 Atropinæ Sulphatis ... ... gr. 1/180		
,, *Hyoscine Compound, B		One
℞ Hyoscinæ Hydrobromidi ... gr. 1/100 Morphinæ Sulphatis ... ... gr. 1/4 Atropinæ Sulphatis ... ... gr. 1/150		

* *In tubes of* 12 *only (all others contain* 20*)*

Pharmacopœial preparations are U.S.P. unless otherwise stated

Hypodermic Products, 'Tabloid' Brand—*continued*

PREPARATION	STRENGTH	DOSE
'TABLOID' BRAND (Hypodermic)—*continued*		
,, *Hyoscyamine Sulphate	... gr. 1/80	gr. 1/200 to gr. 1/100 (increased)
,, * ,, ,,	... gr. 1/20	
,, Mercuric Chloride ...	... 0·001 gm.	gr. 1/60 to gr. 1/30
,, ,, ,, ...	... gr. 1/60	
,, ,, ,, ...	... gr. 1/30	
,, Mercuric Succinimide...	... gr. 1/5	gr. 1/6 to gr. 1/4
,, Morphine Bimeconate	... gr. 1/8	gr. 1/8 to gr. 1/4 (increased)
,, ,, ,,	. . gr. 1/6	
,, ,, ,,	... gr. 1/4	
,, ,, ,,	... gr. 1/3	
,, Morphine Hydrochloride	... 0·01 gm.	gr. 1/8 to gr. 1/4 (increased)
,, ,, ,,	... gr. 1/6	
,, ,, ,,	... 0·015 gm.	
,, ,, ,,	... gr. 1/4	
,, ,, ,,	... 0·02 gm.	
,, ,, ,,	... gr. 1/3	
,, * ,, ,,	... gr. 1/2	
* Morphine Hydrochloride ,, Atropine Sulphate ...	... gr. 1/6 ... gr. 1/70	One
Morphine Sulphate . .	. . gr. 1/12	gr. 1/8 to gr. 1/4 (increased)
,, ,, ,, ...	... gr. 1/8	
,, ,, ,, ...	... 0·01 gm.	
,, ,, ,, ...	... gr. 1/6	
,, ,, ,, ...	... 0·015 gm.	
,, ,, ,, ...	... gr. 1/4	
,, ,, ,, ...	... 0·02 gm.	
,, ,, ,, ...	.. gr. 1/3	
,, * ,, ,,	. 0·03 gm.	
,, * ,, ,,	gr. 1/2	
,, * ,, ,,	0·05 gm.	
,, * ,, ,, ..	. gr. 1	
Morphine Sulphate ... ,, Atropine Sulphate . .	... gr. 1/12 . gr. 1/250	One of required strength
Morphine Sulphate ... ,, Atropine Sulphate ...	... gr. 1/8 .. gr. 1/200	
Morphine Sulphate ... ,, Atropine Sulphate ...	. gr. 1/6 .. gr. 1/180	

* *In tubes of* 12 *only (all others contain* 20*)*

Pharmacopœial preparations are U.S.P. unless otherwise stated

Hypodermic Products, 'Tabloid' Brand—*continued*

PREPARATION	STRENGTH	DOSE
'TABLOID' BRAND (Hypodermic)—*continued*		
" Morphine Sulphate ... / Atropine Sulphate ...	... gr. 1/4 / ... gr. 1/150	One of required strength
" Morphine Sulphate ... / Atropine Sulphate ...	... gr. 1/3 / ... gr. 1/120	
" Morphine Sulphate ... / Atropine Sulphate ...	... gr. 1/3 / ... gr. 1/60	
* " Morphine Sulphate ... / Atropine Sulphate ...	... gr. 1/2 / ... gr. 1/100	
" Morphine Sulphate ... / Strychnine Sulphate	... gr. 1/4 / ... gr. 1/60	One
" Morphine Tartrate ...	... gr. 1/4	gr. 1/8 to gr. 1/4 (increased)
" Physostigmine Salicylate (Eserine Salicylate)	... gr. 1/100	gr. 1/100 to gr. 1/25
" Picrotoxin	... gr. 1/60	gr. 1/100 to gr. 1/25
" Pilocarpine Nitrate ...	... gr. 1/10	gr. 1/20 to gr. 1/2
" " " ...	... 0·01 gm.	
" " " ...	... gr. 1/6	
* " " ...	... gr. 1/3	
* " " ...	... gr. 1/2	
" *Potassium Permanganate	... gr. 2	gr. 1 to gr. 5
" *Quinine Bihydrochloride	... gr. 1	gr. 1 to gr. 5
* " "	... gr. 3	
* " "	... gr. 5	
" *Quinine Bisulphate ...	... gr. 5	gr. 1 to gr. 5
" *Quinine Hydrobromide	... 0·03 gm.	gr. 1/2 to gr. 2
* " "	... gr. 1/2	
* " "	... 0·05 gm.	
" *Sparteine Sulphate ...	... gr. 1/2	gr. 1/2 to gr. 1
" Strophanthin	... gr. 1/500	gr. 1/500 to gr. 1/100
" Strychnine Hydrochloride	... gr. 1/200	gr. 1/150 to gr. 1/10
" " "	... gr. 1/100	
" " "	... gr. 1/30	
" Strychnine Nitrate ...	0·0005 gm.	gr. 1/150 to gr. 1/10
" " " ...	... 0·001 gm.	
" " " ...	... gr. 1/15	
" " " ...	... gr. 1/10	

* *In tubes of* 12 *only (all others contain* 20*)*

Pharmacopœial preparations are U.S.P. unless otherwise stated

Hypodermic Products, 'Tabloid' Brand—*continued*

PREPARATION	STRENGTH	DOSE
'TABLOID' BRAND (Hypodermic)—*continued*		
,, Strychnine Sulphate ...	... gr. 1/150	
,, ,, ,, ...	... gr. 1/100	
,, ,, ,, ...	... gr. 1/60	gr. 1/150 to
,, ,, ,, ...	... gr. 1/50	gr. 1/10
,, ,, ,, ...	... gr. 1/40	
,, ,, ,, ...	... gr. 1/30	
,, Trinitrin (Nitroglycerin)	... gr. 1/250	gr. 1/250 to
,, ,, ,,	... gr. 1/100	gr. 1/50

Also various other Hypodermic products issued under the 'Tabloid' Brand.

Hypodermic Veterinary Products, 'Tabloid' Brand

(See General Price List)

Inhaler (B. W. & Co.)

Ammonium Chloride Inhaler, 'Vereker.'
Delivers neutral vapours of Ammonium Chloride.

Trade Mark 'KEPLER' MALT EXTRACT AND COMBINATIONS

REMEMBER THE TRADE MARK

Verbal instructions are not safe. To prevent fraud it is best to write prescriptions for original bottles.

DOSE—Of all 'Kepler' Preparations, one teaspoonful to one tablespoonful.

PREPARATION AND STRENGTH

'KEPLER' BRAND MALT EXTRACT—

A most reliable and highly-concentrated extract, prepared from the finest winter-malted barley. Its medicinal value depends not only on its high diastatic powers, but also on the albuminoids, phosphates, etc., which it contains.

Ditto with Beef and Iron

'Kepler' Malt Extract and Combinations—*continued*

PREPARATION AND STRENGTH

'KEPLER' BRAND MALT EXTRACT—*continued*

Ditto with Cascara Sagrada
Each fluid ounce contains Extract of Cascara Sagrada, gr. 6

Ditto with Hæmoglobin

Ditto with Iron
Each fluid ounce contains Soluble Iron Pyrophosphate, gr. 4

Ditto with Iron and Quinine Citrate
Each fluid ounce contains Iron and Quinine Citrate, gr. 7-1/2

Ditto with Iron Iodide
Each fluid ounce contains Iron Iodide, gr. 2

Ditto with Iron, Quinine and Strychnine (Easton)
Each fluid ounce contains Iron Phosphate gr. 1/2 ; Quinine Phosphate, gr. 3/8 ; Strychnine Phosphate, gr. 1/64

Ditto with Pepsin
Each fluid ounce contains pure Pepsin, gr. 1

Ditto with Phosphorus
Each fluid ounce contains pure Phosphorus, gr. 1/64

'KEPLER' SOLUTION (OF COD LIVER OIL IN MALT EXTRACT)—

Cod Liver Oil is the premier fatty food. It is unequalled for its power of supplying fat to the body, and for the readiness with which it is oxidised. Moreover, it is an important agent in sparing the consumption of tissue, proteid and carbohydrate.

The great usefulness of cod liver oil has been largely discounted by the unpleasant effects—nausea, eructations and alimentary disturbance—which often follow the administration of even the purest oil.

'Kepler' Solution of Cod Liver Oil in Malt Extract is unique in its palatability and in the ease and completeness with which it is assimilated. It presents the purest cod liver oil incorporated in the best malt extract. The oil is thoroughly diffused in the 'Kepler' Malt Extract, and this molecular incorporation renders its digestion easy and its assimilation certain. So palatable is 'Kepler' Solution that children and fastidious patients take it readily, whilst

'Kepler' Malt Extract and Combinations—*continued*

'KEPLER' SOLUTION (OF COD LIVER OIL IN MALT EXTRACT)—*continued*

it is absorbed without difficulty by the most tender organism. The high food value of this product is shown by rapid increase in the strength and weight of the patient.

Initial doses should be small and only gradually increased.

Ditto with Iron Iodide

Each fluid ounce contains Iron Iodide, gr. 2

Ditto with Phosphorus

Each fluid contains Phosphorus, gr. 1/64

Also various other preparations issued under the 'Kepler' Brand.

Lint, Pleated, Plain and Medicated, Compressed, 'Tabloid' Brand (*see* page 111)

Malt Extract (*see* 'Kepler')

Medicine Chests and Cases, 'Tabloid' Brand (*see* pages 89-98)

Menthol Compound Plasters (B. W. & Co.)

Menthol Snuff (B. W. & Co.)

An extremely effective and convenient combination of Ammonium Chloride, Menthol, Eucaine Lactate (1/3 per cent.), etc., issued in enamelled tins, after the manner of old-fashioned black and gold snuff boxes.

Methyl Alcohol (Pure)

For use in microscopic staining. In hermetically-sealed glass phials, each containing 15 c.c.

'Opa' *(formerly known as* 'SALODENT'*)*

An aromatic, antiseptic liquid dentifrice. Bottles containing 2 and 4 fluid ounces (with sprinklers).

OPHTHALMIC PRODUCTS
'TABLOID' Brand

The word 'TABLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

'Tabloid' Ophthalmic products are minute in size, as thin as notepaper, and contain exact doses of pure drugs, prepared with a perfectly innocuous and rapidly soluble basis. They are supplied in tubes of 25 (except C, DD, E, FF, G, L, O, W, Y and Z, which contain 12).

Exact Doses

'TABLOID' BRAND (Ophthalmic)—

,,	T	Alum	gr. 1/250
,,	EE	Argyrol	gr. 1/24
,,	X	Atropine Sulphate	gr. 1/600
,,	A	,, ,,	gr. 1/200
,,	B	Atropine Hydrobromide Cocaine Hydrochloride	gr. 1/200 gr. 1/200
,,	AA	Cocaine Hydrochloride	gr. 1/50
,,	C	,, ,,	gr. 1/20
,,	BB	Dionin	0·0005 gramme
,,	FF	,,	0·005 gramme
		Eserine (*see* Physostigmine)	
,,	Y	Euphthalmine Hydrochloride	gr. 1/40
,,	Z	Fluorescein	gr. 1/250
,,	H	Homatropine Hydrochloride	gr. 1/400
,,	E	,, ,,	gr. 1/40
,,	O	Homatropine Hydrochloride Cocaine Hydrochloride	gr. 1/240 gr. 1/24
,,	W	Homatropine Hydrochloride Cocaine Hydrochloride	gr. 1/50 gr. 1/50
,,	U	Hyoscine Hydrobromide	gr. 1/600
,,	GG	Physostigmine Salicylate	gr. 1/2000
,,	F	,, ,,	gr. 1/600
,,	G	Physostigmine Salicylate Tropacocaine Hydrochloride	gr. 1/500 gr. 1/100
,,	K	Pilocarpine Nitrate	gr. 1/400
,,	M	Pilocarpine Nitrate Cocaine Hydrochloride	gr. 1/500 gr. 1/200

Ophthalmic Products, 'Tabloid' Brand—*continued*

'TABLOID' BRAND (Ophthalmic)—

		Scopolamine (*see* Hyoscine)	
,,	I	Tropacocaine Hydrochloride ...	gr. 1/30
,,	R	Zinc Sulphate	gr. 1/250
,,	DD	Zinc Sulphate	gr. 1/250
		Cocaine Hydrochloride	gr. 1/20

Also various other Ophthalmic products issued under the 'Tabloid' Brand.

OPHTHALMIC PRODUCTS 'SOLOID' Brand

The word 'SOLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

'SOLOID' BRAND (Ophthalmic)—

,, J Corrosive Sublimate (*Hydrarg. Chlor. Corrosiv.*) gr. 1/1000, tubes of 25

For other 'Soloid' Brand Products suitable for ophthalmic use, see pages 131-136

Ophthalmic Veterinary Products, 'Soloid' Brand *(see General Price List)*

'Paroleine' *(Trade Mark)* A perfectly stable, odourless, colourless and tasteless oil. It is a good solvent of many of the remedies employed in treating diseases of the nose and throat.

'Phenofax' *(Trade Mark)* 'PHENOFAX' ANTISEPTIC SEDATIVE DRESSING presents 7 per cent. of pure phenol in a bland basis which is notable for its sedative effect on the skin and mucous surfaces. It disinfects, encourages granulation, and allays pain.

PASTILLES, 'TABLOID' BRAND

The word 'TABLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

'Tabloid' Pastilles ensure the gradual and prolonged application to the throat and mouth of medicaments, which are presented in a most pleasant condition; they are also employed in certain cases to obtain the general effect of the drug. By their use, astringents, antiseptics, anæsthetics, expectorants and laxatives can be conveniently exhibited. The basis of the pastille is demulcent, increasing the efficacy of the active ingredients.

'TABLOID' BRAND—

,, Ammonium Chloride and Liquorice
Each contains Ammonium Chloride, gr. 1

,, Benzoic Acid Compound

R	Acidi Benzoici	gr. 1/2
	Codeinæ	gr. 1/10
	Menthol	gr. 1/10
	Pulv. Ipecacuanhæ	gr. 1/10
	Cocainæ Hydrochloridi ...	gr. 1/40
	Gummi Rubri	gr. 1/2

,, Cocaine Hydrochloride, gr. 1/10

,, Codeine, gr. 1/8

,, Glycerin

,, Glycerin and Black Currant

,, Glycerin, Tannin and Black Currant
Each contains Tannin, gr. 1/2

,, Glycerin, Tannin, Capsicum and Black Currant
Each contains Tannin, gr. 1/2, and the equivalent of Tinct. Capsici, min 0·40, equal to Pulv. Capsici, gr. 3/80.

,, Laxative Fruit
Each contains Extract of Senna Fruit, gr. 5, pleasantly flavoured. The 'Tabloid' Pastille is extremely palatable, and facilitates the administration, to children and fastidious patients, of an efficient laxative.

,, Lemon Juice

,, Linseed, Liquorice and Chlorodyne
Each contains Morphine Hydrochloride, gr. 1/120

,, Menthol, gr. 1/8

,, Menthol and Eucalyptus

R	Menthol	gr. 1/20
	Olei Eucalypti	min. 1/2

Pastilles, 'Tabloid' Brand—*continued*

'TABLOID' BRAND—

,, Morphine and Ipecacuanha

℞ Morphinæ Hydrochloridi ... gr. 1/36
Pulv. Ipecacuanhæ ... ... gr. 1/12

,, Pectoral

Containing Ammoniated Liquorice, Squill, Tolu, Senega, Ipecacuanha, Virginian Prune, etc.

,, Pine Tar Compound

,, 'Pinol,' min. 1

,, Red Gum and Cocaine

℞ Gummi Rubri ... ... gr. 1
Cocainæ Hydrochloridi ... gr. 1/120

,, Rhatany, Menthol and Cocaine

℞ Extract Krameriæ ... ... gr. 2
Menthol ... ... gr. 1/20
Cocainæ Hydrochloridi ... gr. 1/20

PHOTOGRAPHIC CHEMICALS
'TABLOID' Brand

The word 'TABLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

'Tabloid' Photographic Chemicals are much more convenient than ordinary chemicals; their superior quality and accurate weight ensure the best results. They entirely obviate the trouble of weighing small quantities of chemicals and the disappointments occasioned by the deterioration of stock solutions. They enable the tourist to carry all the requisite materials for developing, fixing, etc., with convenience, comfort and safety. At home they save time and trouble.

Pure and reliable

Developers

The developers are packed in cartons, each containing the 'Tabloid' Reducing Agent, and the 'Tabloid' Accelerator specially prepared for use with that reducing agent.

'TABLOID' BRAND
(Photographic)—

,, Amidol Developer

,, Edinol Developer

,, Eikonogen Developer

Photographic Chemicals, 'Tabloid' Brand—*continued*

Developers—*continued*

'TABLOID' BRAND (Photographic)—

- ,, Glycin Developer
- ,, Hydroquinone (Quinol) Developer
- ,, Metol Developer
- ,, Metol-Quinol Developer
- ,, Ortol Developer
- ,, Paramidophenol Developer
- ,, Pyro Developer
- ,, Pyro-Metol Developer *(Imperial Standard Formula)*
- ,, *Pyro-Soda Developer *(Ilford Formula)*

Accessories

'TABLOID' BRAND Photographic—

	STRENGTH
, *Alkali*—	
'Tabloid' Sodium Carbonate	gr. 44
,, *Clearing and Hardening*—	
'Tabloid' Alum	gr. 10
'Tabloid' Alum and Citric Acid Compound (Chrome Alum, gr. 5; Citric Acid, gr. 5; Sodium Sulphite, gr. 20)	
,, *Density Reducers*—	
'Tabloid' Ammonium Persulphate ...	gr. 11
'Tabloid' Potassium Ferricyanide ...	gr. 2
,, *Hypo Eliminator*—	
'Tabloid' Potassium Percarbonate ...	gr. 3
,, *Intensifier*—	
'Tabloid' Mecuric Iodide and Sodium Sulphide	
, *Preservatives*—	
'Tabloid' Potassium Metabisulphite ...	gr. 10
'Tabloid' Sodium Sulphide, Dried, gr. 5	Equals gr. 10 of crystals

* In ordering this special developer, it is always necessary to quote "Ilford formula."

Photographic Chemicals, 'Tabloid' Brand—*continued*

Accessories—*continued*

'TABLOID' BRAND
(Photographic)—

,, *Restrainers*—

'Tabloid' Potassium Bromide ...	...	gr. 1
'Tabloid' Ammonium Bromide	...	gr. 1
'Tabloid' Sodium Citrate ...	...	gr. 1

Fixer

'TABLOID' BRAND
(Photographic)—

,, Sodium Thiosulphate ('Hypo'), Dried, gr. 28·5 } Equals gr. 44 of crystals

Sensitiser *(for Carbon Tissue)*

'TABLOID' BRAND
(Photographic)—

,, Potassium Ammonium Chromate, gr. 24

Toners

'TABLOID' BRAND
(Photographic)—

,, Gold Chloride, gr. ½, with Borax, gr. 15 (B 1)
,, ,, ,, ,, Sodium Bicarbonate, gr. 15 (B 2)
,, ,, ,, ,, Sodium Phosphate, gr. 15 (B 3)
,, ,, ,, ,, Sodium Tungstate, gr. 15 (B 4)
,, ,, ,, ,, Sodium Formate Compound (B 5)
,, ,, ,, ,, Sulphocyanide Compound (B 6)
,, ,, ,, ,, Thiosulphate Compound
(Combined Bath for toning and fixing P.O.P.) (B 10)

The above are supplied in cartons containing sufficient for the preparation of six toning baths of 5 to 10 ounces or more. For convenience they may be ordered by their numbers, thus :—'Tabloid' Gold Toning, B 1, B 2, etc.

,, Copper Ferrocyanide Toning Compound *(for toning Bromide Prints and Lantern Slides)*
,, Platinum Toning Compound *(for toning Matt P.O.P.)*
,, Sepia Toner *(for Bromide Prints and Lantern Slides)*

Also various other photographic products issued under the 'Tabloid' Brand.

PHOTOGRAPHIC EXPOSURE RECORD AND DIARY, WELLCOME'S

The most useful pocket-book for the photographer. Contains ruled pages for recording exposures, a diary for the year, also numerous technical articles and tables, and an exposure calculator which tells the correct exposure under any circumstance by *one turn of one scale*, etc., etc.

UNITED STATES EDITION. Bound in red cloth.

Also issued

SOUTHERN HEMISPHERE AND TROPICAL EDITION, for all countries south of the Tropic of Cancer (about 20° N.). Bound in dark green cloth.

NORTHERN HEMISPHERE EDITION, for Canada, Europe, and all countries in the Northern Hemisphere except United States of America. Bound in light green cloth.

Each edition complete with wallet for proofs, etc., and pencil.

PHOTOGRAPHIC OUTFIT, 'TABLOID' Brand

A complete and compact chemical outfit for developing and fixing plates, films, bromide or 'gaslight' papers, and for toning and fixing P.O.P.

STANDARD CONTENTS :—

'Tabloid' Metol-Quinol Developer to make 44 ounces of solution; 'Tabloid' Pyro Developer to make 40 ounces of solution; 'Tabloid' Combined Toner and Fixer to make 30 ounces of solution; 'Tabloid' Hypo; 'Tabloid' Potassium Bromide, gr. 1.

Outside measurements, $4\frac{1}{2} \times 4\frac{1}{4} \times 2$ in. In japanned metal case.

'Pinol' *(Distilled Essence of the Pinus Pumilio)*
(Trade Mark)

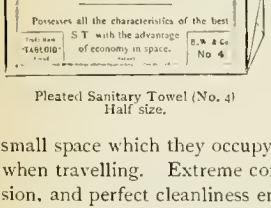
A valuable stimulant, disinfectant and antiseptic in respiratory affections. The 'Tabloid' Pastille (*see* page 126) affords a pleasant means of securing prolonged continuous local action.

$\frac{1}{2}$ oz. and 1 oz. bottles.

Pharmacopœial preparations are U.S.P. unless otherwise stated

SANITARY TOWELS, PLEATED, COMPRESSED, 'TABLOID' Brand

Pleated Sanitary Towels possess several points of superiority over ordinary commercial sanitary towels. They are made of materials of exceptional quality specially adapted for the purpose. Their highly absorbent properties are particularly noteworthy. The delicate texture of the surface of these towels ensures perfect freedom from the slightest sense of discomfort in use. Owing to the extremely small space which they occupy, they are particularly convenient when travelling. Extreme compactness is secured by compression, and perfect cleanliness ensured by the method of packing.



Pleated Sanitary Towel (No. 4)
Half size.

Five sizes are issued, each size in packages of 12.

'Saxin,' gr. 1/4, in bottles of 100, 200 and 500.
(Trade Mark)

SERUMS, 'WELLCOME' Brand

Reputation

The high reputation which these serums have with the medical profession is constantly confirmed by the favourable reports received, and the accumulating evidence proves this high reputation to be deserved.

Tests

The 'Wellcome' Serums are prepared under U.S.A. Government Licences, Nos. 18 and 20, in the Wellcome Physiological Research Laboratories, Brockwell Hall, London, England, under conditions which fulfil every requirement of modern science and under the immediate supervision of specialists of long and varied experience. The serums are not sent out until they have successfully passed rigorous sterility and toxicity tests; they are then issued in hermetically-sealed phials of convenient sizes.

Burroughs Wellcome & Co. act as distributing agents, and will endeavour to despatch orders for these serums immediately on receipt of letter or telegram.

Serums, 'Wellcome' Brand—*continued*

Diphtheria Antitoxic Serum ('Wellcome')

Phials containing 1000, 2000, 3000 and 4000 (Ehrlich-Behring) units.

High Potency:

Phials containing	1000	(Ehrlich-Behring) units in	1 c.c.
,,	2000	,, ,,	2 c.c.
,,	3000	,, ,,	3 c.c.
,,	4000	,, ,,	4 c.c.
,,	5000	,, ,,	5 c.c.
,,	6000	,, ,,	6 c.c.
,,	8000	,, ,,	8 c.c.
,,	10,000	,, ,,	10 c.c.

Anti-streptococcus Serum, Polyvalent ('Wellcome')

: from horses immunised against cultures of streptococci coming in all from 60 sources, in the following diseases:—

ERYSIPELAS, SCARLET FEVER, PUERPERAL FEVER, RHEUMATIC FEVER, SEPTICÆMIA, ANGINA, PNEUMONIA, ULCERATIVE ENDOCARDITIS.

Phials containing 10 c.c., 25 c.c., and 50 c.c.

Serum Syringes (*see* page 115)

Trade Mark 'SOLOID' BRAND PRODUCTS

The word 'SOLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co. To ensure the supply of these pure and reliable preparations, this brand should always be specified when ordering.

The series of 'Soloid' Brand products provides reliable antiseptics, astringents and anæsthetics; also convenient means of preparing stains for microscopic work and test solutions for water, sewage, or urine analysis. Their portability, accuracy in dosage, uniform activity and ready solubility render them far preferable to stock solutions.



'SOLOID' BRAND—	STRENGTH	Issued in bots. of	bots. of
,, Alum	gr. 10	—	100
,, Alum and Zinc Sulphate ...		25	—
R Aluminis	gr. 15		
Zinci Sulphatis ...	gr. 15		

'Soloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Soloid' Brand Products—*continued*		Issued in bots. of	bots. of
'SOLOID' BRAND—	STRENGTH		
,, Alum and Zinc Compound, Strong ... ... R Aluminis ... ... gr. 30 Zinci Sulphatis ... gr. 15		25	—
,, Argyrol, tubes of 12	gr. 1	—	—
,, ,, tubes of 6	gr. 5·45	—	—
,, Atropine Sulphate, tubes of 6	gr. 0·545	—	—
,, Atropine and Cocaine, tubes of 6 ... ... R Atropinæ Sulphatis gr. 0·272 Cocainæ Hydrochloridi gr. 1·09		—	—
,, Boric Acid *(scented with Otto of Rose)*	gr. 6	25	—
,, Boric Acid *(unscented)* ...	gr. 15	50	—
,, Boric Acid and Zinc Sulphate *(scented with Otto of Rose)* R Acidi Borici ... ... gr. 6 Zinci Sulphatis ... gr. 1/2		25	
,, Carbolic Acid, tubes of 25 ...	gr. 5	—	—
,, ,, ,, ,, 12 ...	gr. 20	—	—
,, ,, ,, ,, 6 ...	gr. 60	—	—
,, Chinosol	gr. 1·75	25	—
,, ,, ...	gr. 8·75	25	100
,, Cocaine Hydrochloride, tubes of 25	gr. 1/2	—	100
,, Cocaine Hydrochloride ...	gr. 1	25	100
,, ,, ,, ...	gr. 5	25	—
,, Cocaine and Eucaine, āā ...	gr. 1/2	25	—
,, Copper Sulphate	gr. 1	—	100
,, Corrosive Sublimate (Hydrarg. Chlor. Corrosiv.) *(Ophthalmic)*, tubes of 25 *(see page 124)*	gr. 1/1000	—	—
,, Corrosive Sublimate (Hydrarg. Chlor. Corrosiv.)	gr. 1·75	—	100
,, Corrosive Sublimate (Hydrarg. Chlor. Corrosiv.) ... ... One in 16 fluid ounces of water = 1 in 1000 solution.	gr. 7·3	25	100
,, Corrosive Sublimate (Hydrarg. Chlor. Corrosiv.)	gr. 8·75	25	100

'Soloid' Brand Products are also issued in bottles of 500, with the exception of those put up in tubes only

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Soloid' Brand Products—*continued*		Issued in bots. of	bots. of
'SOLOID' BRAND—	STRENGTH		
,, Corrosive Sublimate (Hydrarg. Chlor. Corrosiv.) ... ... One in 32 fluid ounces of water = 1 in 1000 solution.	gr. 14·6	—	100
,, Corrosive Sublimate (Hydrarg. Chlor. Corrosiv.)	gr. 17·5	—	100
,, Corrosive Sublimate (Hydrarg. Chlor. Corrosiv.)	0·5 gm.	25	100
,, Corrosive Sublimate (Hydrarg. Chlor. Corrosiv.), tubes of 10	1 gm.	25	—
,, Eucaine Hydrochloride ...	gr. 1	25	—
,, ,, ,, ...	gr. 5	25	—
,, ,, Lactate	gr. 1	25	—
,, ,, ,, ...	gr. 5	25	—
,, Homatropine and Cocaine, tubes of 6 ... ... R Homatropinæ Hydrobromidi .. ... gr. 0·545 Cocaine Hydrochloridi ... ... gr. 1·09		—	—
,, Homatropine Hydrobromide, tubes of 6	gr. 0·545	—	—
,, Homatropine Methylbromide and Cocaine, tubes of 6 ... R Homatropinæ Methylbromidi ... ... gr. 0·545 Cocainæ Hydrochloridi .. ... gr. 1·09		—	—
,, Lead and Opium Lotion ... R Plumbi Acetatis ... gr. 8 Tinct. Opii ... min. 17 Each represents 1 ounce of the N.F. Lotio Plumbi et Opii.		25	—
,, Lead Subacetate ... ... 'Soloid' Lead Subacetate is prepared from basic lead acetate, and not from normal lead acetate.	gr. 10	25	—
,, Lead Subacetate ... ... One in 2½ oz. of distilled water yields a 1 per cent. solution, corresponding to Liquor Plumbi Subacetatis Dilutus.	gr. 11·5	25	—

'Soloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Soloid' Brand Products—*continued*		Issued in bots. of	bots. of
'SOLOID' BRAND—	**STRENGTH**		
,, Mercuric Potassium Iodide (*formerly known as* Iodic-Hydrarg.), tubes of 25 ...	gr. 1·75	—	100
,, Mercuric Potassium Iodide ...	gr. 4·37	25	100
,, ,, ,, ...	gr. 7·3	25	100
One in 16 fluid ounces of water = 1 in 1000 solution (frequently known as Mercury Biniodide Solution)			
,, Mercuric Potassium Iodide ...	gr. 8·75	25	100
,, Nasal, Alkaline Compound ...		..	100
R Boracis ... ... gr. 5 Sodii Chloridi .. gr. 5			
,, Nasal, Antiseptic and Alkaline Compound		—	100
R Sodii Bicarbonatis gr. 5 Acidi Carbolici ... gr. 1/2 Boracis ... .. gr. 5			
,, Nasal, 'Eucalyptia' Compound		—	100
R Sodii Bicarbonatis gr. 8 Boracis ... ... gr. 8 Sodii Benzoatis ... gr. 1/3 Sodii Salicylatis ... gr. 1/3 Eucalyptol ... min. 1/6 Thymol ... gr. 1/6 Menthol ... ... gr. 1/12 Ol. Gaultheriæ ... min. 1/12			
,, Nasal, Phenol Compound ...		25	—
R Sodii Bicarbonatis gr. 12 Acidi Carbolici ... gr. 1-1/2 Sodii Chloridi ... gr. 2			
,, Nasal, Sodium Bicarbonate Compound		—	100
R Sodii Bicarbonatis gr. 5 Boracis .. . gr. 5 Sodii Chloridi ... gr. 5			
,, Nasal, Sodium Bicarbonate Compound, Saccharated ...		—	100
R Sodii Bicarbonatis gr. 5 Boracis ... ... gr. 5 Sodii Chloridi .. gr. 5 Sacchari Albi ... gr. 5			

'Soloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Soloid' Brand Products—*continued*

SOLOID' BRAND—	STRENGTH	Issued in bots. of 25	bots. of 100
,, Naso-Pharyngeal Compound R Sodii Chloridi .. gr. 7 Boracis ... ... gr. 2·1/2 Acidi Borici ... gr. 3/4 Sodii Benzoatis .. gr. 1/2 Menthol ... ... gr. 1/50 Thymol .. ... gr. 1/100 Cocainæ Hydrochloridi gr. 1·6 Ol. Gaultheriæ ... min. 1/20		25	100
,, 'Nizin' (*Trade Mark*) ... A Zinc salt of Sulphanilic Acid	gr. 2	—	100
,, Paraform	gr. 5		100
,, Potassium Permanganate ...	gr. 1	—	100
,, ,, ,, ...	gr. 5	25	100
,, Potassium Permanganate and Alum ... ... R Potassii Permanganatis gr. 3 Aluminis ... gr. 5		—	100
,, Silver Nitrate	gr. 1	25	—
,, ,, ,, ...	gr. 5	25	—
,, Sodium Chloride, tubes of 12 Two dissolved in 16 fluid ounces of boiled (sterile) water, for intravenous injection at 100° F. (37·8° C.), give a solution containing 0·685 per cent. of sodium chloride.	gr. 25	—	—
,, Sodium Chloride, tubes of 6 One in 16 fluid ounces of boiled (sterile) water, for intravenous injection at 100° F. (37·8° C.)	gr. 50	—	—
,, Sodium Chloride Compound, tubes of 12 ... ... R Sodii Chloridi ... gr. 21 Sodii Sulphatis ... gr. 1 Sodii Carbonatis ... gr. 1 Sodii Phosphatis ... gr. 1 Potassi Chloridi ... gr. 1·1/4 Two in 16 fluid ounces of boiled (sterile) water, for intravenous injection at 100° F. (37·8° C.)		—	—
,, Zinc Chloride	gr. 5	25	—

'Soloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Soloid' Brand Products—*continued*		Issued in bots. of	bots. of
'SOLOID' BRAND—	STRENGTH		
,, Zinc Permanganate	gr. 1/8	—	100
,, Zinc Sulphate	gr. 1	—	100
,, ,, ,, ...	gr. 10	—	100
,, Zinc Sulphocarbolate... ...	gr. 2	—	100
,, ,, ,, ...	gr. 10	—	100

Also a wide range of other products issued under the 'Soloid' Brand.

'SOLOID' BRAND PRODUCTS FOR TESTING PURPOSES, etc.

For Urine Analysis

'SOLOID' BRAND—	STRENGTH	Issued in tubes of
,, Citric Acid	gr. 1	20
,, Fehling's Test, *for preparing Fehling's Solution*, cartons of 24		
,, Indigo Test for Sugar (Sodium Nitrophenyl-propiolate)	gr. 1/4	20
,, Picric Acid	gr. 1	20
,, Potassium Ferrocyanide	gr. 1	20
,, Salicyl-sulphonic Acid	gr. 2	16

For Water Analysis

'SOLOID' BRAND—	STRENGTH
,, Ammonium Chloride...	0·00016 gm.
,, Lead Acetate	0·0184 gm.
,, Meta-phenylenediamine Sulphate	0·01 gm.
,, Oxalic Acid	0·1 gm.
,, Potassium Chromate...	0·0065 gm.
,, Potassium Ferrocyanide	0·013 gm.
,, Potassium Iodide and Starch	
,, Potassium Nitrate	0·00144 gm.
,, Potassium Permanganate	0·000395 gm.
,, Silver Nitrate...	0·0097 gm.
,, Soap	
,, Sodium Acid Sulphate	0·324 gm.

'Soloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Soloid' Brand Products for Testing purposes, etc.—*continued*

For Water Analysis*—*continued

'SOLOID' BRAND—	STRENGTH
,, Zinc Dust	0·13 gm.
,, Zinc Sulphide	0·25 gm.

In packages of 25

,, Nessler's Solution, in hermetically-sealed glass capsules.

Boxes of 30 capsules, each containing ...	0·5 c.c.
,, 24 ,, ,, ...	2·0 c.c.

For Sewage Analysis

'SOLOID' BRAND—	STRENGTH
,, Oxalic Acid	0·0079 gm.
,, Potassium Permanganate	0·00395 gm.
,, Pyrogallic Acid	0·032 gm.
,, Sodium Hydroxide	0·13 gm.

In packages of 25

Test Indicators

'SOLOID' BRAND—	STRENGTH
,, *Indigo-Carmine	
,, *Lacmoid	
,, *Methyl-Orange	
,, *Phenolphthalein	
,, *Rosolic Acid	
Starch	0·5 gm.

* One dissolved in 10 c.c. of solvent forms the Test Indicator.

In tubes of 10

Microscopic Stains

'SOLOID' BRAND—	STRENGTH
,, Bismarck Brown, pure	0·1 gm.
,, Borax Methylene Blue	
,, Ehrlich Triple Stain	
,, Eosin-Azur (for Giemsa staining with one solution)	
,, Eosin, pure	0·1 gm.
,, Eosin-methylene Blue (Louis Jenner's Stain)	0·05 gm.

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Soloid' Brand Products for Testing Purposes, etc.—*continued*

Microscopic Stains—*continued*

'SOLOID' BRAND—	STRENGTH
,, Fuchsine, pure	0·1 gm.
,, Gentian Violet, pure	0·1 gm.
,, Gram's Iodine Solution	15 c.c.
,, Hæmatoxylin (Delafield)	
,, Hæmatoxylin, pure	0·1 gm.
,, Methylene Blue, pure	0·1 gm.
,, Methyl Violet, pure	0·1 gm.
,, Romanowsky Stain (Leishman's Powder) ...	0·015 gm.
,, Sodium Carbonate	0·05 gm.
,, Thionin Blue, pure	0·1 gm.
,, Toison Blood Fluid	

In tubes of 6

Methyl Alcohol (pure), for use in microscopic staining; in hermetically-sealed glass phials, each containing 15 c.c.

Also a wide range of other products issued under the 'Soloid' Brand

Strophanthus Tincture (B. W. & Co.)

(Physiologically standardised in the Wellcome Physiological Research Laboratories.)

Prepared in accordance with the United States Pharmacopœia (Eighth Revision), from carefully selected Strophanthus seeds.

Strophanthus Tincture (B. W. & Co.)

(Physiologically standardised in the Wellcome Physiological Research Laboratories.)

Prepared in accordance with the British Pharmacopœia, 1898, from carefully selected Strophanthus seeds.

Strophanthus Tincture, 'Tabloid' Brand (*see* page 163)

Suppositories (*see* 'Enule' Rectal Suppositories, pages 112–113; *and* 'Hazeline' Suppositories, page 114)

Surgical Dressings, Compressed, 'Tabloid' Brand (*see* pages 109–111)

Syringes, Hypodermic and Serum (*see* pages 114–115)

Pharmacopœial preparations are U.S.P. unless otherwise stated

Trade Mark 'TABLOID' BRAND PRODUCTS

The word 'TABLOID' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

Under the 'Tabloid' Brand is issued an immense variety of drugs and their combinations, all prepared from the purest ingredients, and divided into accurate doses with due regard to their therapeutic uses. They require no weighing or measuring, accurate doses can be immediately administered, and they keep unchanged in any climate. Owing to their extreme portability, supplies may be comfortably carried in the waistcoat pocket, and doses taken regularly whilst following the usual routine of social, professional, or commercial life. 'Tabloid' Brand products of unpleasant drugs are coated with a thin film of white sugar, readily soluble in the stomach, while those intended to act after leaving the stomach are coated with keratin, soluble only in the alkaline secretions of the intestines.

Accurate Dosage

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	bots. of
,, Acetanilide *(see* Antifebrin*)*			
,, Aconite Tincture, min 1/4 and min. 1	1 frequently	100	—
,, ,, ,, min. 5	1 to 3	36	100
,, Aloes and Iron .. ... Each product equals one of the U.S.P. pills.	1 to 2	—	100
,, Aloes and Myrrh ... ... Each product equals one of the U.S.P. pills.	1 to 2	—	100
,, Aloin, gr. 1/10	1 frequently	100	—
,, ,, gr. 1/2	1 to 4	25	100
,, Aloin Compound ... ... ℞ Aloina ... ... gr. 1/5 Strychninæ Sulphatis ... ... gr. 1/60 Ext. Belladonnæ ... gr. 1/8 Pulv. Ipecacuanhæ gr. 1/16	1 to 2 after meals, or 1 to 3 at bed-time	50	100
,, Ammoniated Quinine ... Each contains quinine sulphate and ammonium bicarbonate to correspond with one fluid drachm of the tincture.	1	25	100

'Tabloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued*

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	bots. of
,, Ammonium Bromide, gr. 5 ...	1 to 6	—	100
,, ,, ,, gr. 10	1 to 3	—	100
,, Ammonium Carbonate, gr. 3	1 to 3	—	100
,, Ammonium Chloride, gr. 3...	1 to 6	25	100
,, ,, ,, gr. 5...	1 to 4	—	100
,, ,, ,, gr. 10	1 to 2	—	100
,, Ammonium Chloride and Borax	1 as required	—	100
,, Ammonium Chloride and Liquorice	1 as required	25	100
℞ Ammonii Chloridi... gr. 3 Ext. Glycyrrhizæ ... gr. 2			
,, Antifebrin (Acetanilide), gr. 2	1 to 2	25	100
,, ,, ,, gr. 5	1 *(in special cases)*	25	100
,, Antifebrin Compound ...	1	—	100
℞ Antifebrini (Acetanilidi) ... ... gr. 2 Camphoræ Monobromatæ ... ... gr. 1 Caffeinæ Citratis ... gr. 1			
,, Antipyrine (Phenazone), gr. 2-1/2	1 to 4 or more	25	100
,, ,, ,, 5	1 to 4	25	100
,, 'Aol' *(Trade Mark)*, a derivative of *Santalum album*, 0·3 gm. (approx. gr. 5), boxes of 50...	2 or more		
Apomorphine Compound ...	1 as required	25	100
℞ Apomorphinæ Hydrochloridi gr. 1/50 Ammonii Chloridi gr. 3 Ext. Glycyrrhizæ gr. 1-1/2			
,, Apomorphine Hydrochloride, gr. 1/50	1 to 3 *(expectorant)*	50	
,, Aromatic Chalk Powder with Opium, N.F., gr. 5 ...	2 to 4 or more	25	100
Each contains approximately:— Chalk, gr. 1; Opium, gr. 1/8, with aromatics.			

'Tabloid' Brand Products are also issued in bottles of 500. *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued*

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	Issued in bots. of
,, Arsenical Compound... ...	1 to 2	—	100
R Acidi Arseniosi ... gr. 1/100 Ferri Sulphatis Exsiccati gr. 1 Calcii Sulphidi ... gr. 1/4 Ext. Gentianæ ... gr. 2			
,, Arsenious Acid, gr. 1/100 ...	1 to 6	100	—
,, ,, ,, gr. 1/50 ...	1 to 3	100	—
,, ,, ,, gr. 1/20 ...	1	100	—
,, Asafœtida and Opium Compound	1 to 2	—	100
R Asafœtidæ Camphoræ Pulv. Opii Pulv. Piperis Nigri ää gr. 1			
,, Astringent Mixture	1 to 2	—	100
R Confectionis Aromat. gr. 4-1/2 Pulv. Cretæ Comp. gr. 20 Ammon. Bicarb. ... gr. 1/2 Tinct. Gambir Co. min. 60 Tinct. Cardamomi Comp. ... ... min. 4-1/2 Tinct. Opii ... min. 1 Olei Cinnamomi min. 1/8			
,, Atropine Sulphate, gr. 1/100	1	50	—
,, Belladonna Tincture, min. 1...	1 frequently	100	—
,, ,, min. 5...	1 to 3	48	100
,, Benzoic Acid, gr. 5	1 to 3	—	100
,, Benzoic Acid Compound ...	1 as required	25	100
R Acidi Benzoici ... gr. 1/2 Codeinæ ... .. gr. 1/10 Menthol ... ... gr. 1/10 Pulv. Ipecacuanhæ gr. 1/10 Cocaine Hydrochloridi ... gr. 1/40 Ol. Menthæ Piperitæ min. 1/16 Gummi Rubri ... *q.s.*			
,, Beta-Naphthol, gr. 3... ...	1 to 3	—	100
,, Beta-Naphthol Compound ...	1 to 4	25	100
R Beta-Naphthol ... gr. 1 Carbonis Ligni ... gr. 4 Ol. Menthæ Piperitæ ... min. 1/2			

'Tabloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued*		Issued in	
'TABLOID' BRAND—	DOSE	oval bots. of	bots. of
,, Bismuth and Dover Powder... ℞ Bismuthi Subnitratis ... gr. 2-1/2 Pulv. Ipecac. & Opio ... gr. 2-1/2	1 to 6	—	100
,, Bismuth and Soda ... ℞ Bismuthi Subnitratis... gr. 2-1/2 Sodii Bicarbonatis gr. 2-1/2	1 to 4 or more	—	100
,, Bismuth, Rhubarb and Soda... ℞ Bismuthi Subnitratis ... gr. 3 Pulv. Rhei ... ... gr. 1 Sodii Bicarbonatis gr. 2	1 to 4	25	100
,, Bismuth Salicylate (*physiologically pure*), gr. 5 ...	1 to 4	—	100
,, Bismuth Subcarbonate, gr. 5	1 to 4	25	100
,, Bismuth Subgallate, gr. 5 ...	1 to 4	25	100
,, Bismuth Subnitrate, gr. 5 ...	1 to 4	25	100
,, ,, ,, gr. 10 ...	1 to 2	—	100
,, Blaud (Pil. Ferrugin), gr. 5 ...	1 to 3	—	100
,, ,, ,, gr. 8 ...	1 to 2	—	100
,, Blaud Pill and Aloin... ℞ Pil. Ferrugin (Blaud) ... gr. 4 (= 20 % Ferri Carbonatis) Aloini ... ... gr. 1/20	1 to 4	—	100
,, Blaud Pill and Arsenic ... ℞ Pil. Ferrugin (Blaud) ... gr. 4 (= 20 % Ferri Carbonatis) Acidi Arseniosi ... gr. 1/64	1 to 4	—	100
,, Blaud Pill and Cascara ... ℞ Pil. Ferrugin. (Blaud)... gr. 4 (= 20 % Ferri Carbonatis) Ext. Cascaræ Sagradæ ... gr. 1/2	1 increased to 4	—	100
,, Blaud Pill Compound ... ℞ Pil. Ferrugin. (Blaud)... gr. 10 (= 20 % Ferri Carbonatis) Pulv. Capsici ... gr. 1/4 Aloini ... ... gr. 1/30 Strychninæ ... ... gr. 1/30 Acidi Arseniosi ... gr. 1/30	1	—	100

'Tabloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued*		Issued in	
'TABLOID' BRAND—	DOSE	oval bots. of	bots. of
,, Blaud Pill with Arsenic and Strychnine	1 to 4	—	100
℞ Pil. Ferrugin. (Blaud)... gr. 5 (= 20 % Ferri Carbonatis) Acidi Arseniosi ... gr. 1/100 Strychninæ ... ... gr. 1/100			
,, Blue Pill, gr. 4	1 to 2	25	100
Each contains gr. 1-1/3 of pure Metallic Mercury.			
,, Blue Pill and Rhubarb Compound	1 to 2	—	100
℞ Pil. Hydrargyri ... gr. 2-1/2 Pil. Rhei Comp. ... gr. 2-1/2			
,, Blue Pill, Colocynth and Hyoscyamus	1 to 2	25	100
℞ Pil. Hydrargyri ... gr. 2 Pil. Colocynthidis et Hyoscyami, N.F. gr. 4			
,, Bone Medulla, gr. 5, boxes of 50	1 or more	—	—
,, Borax, gr. 5	1 to 4 or more	25	100
,, Boric Acid, gr. 5	1 to 3	—	100
,, Bromides Compound... ...	1 to 6	—	100
℞ Sodii Bromidi... ... gr. 2 Strontii Bromidi ... gr. 2 Ammonii Bromidi ... gr. 1 Sodii Arsenatis Exsicc. gr. 1/60			
,, Butyl-Chloral Hydrate and Gelsemine	1	—	100
℞ Butyl-Chloral Hydratis... gr. 3 Gelseminæ Hydrochloridi gr. 1/200			
,, Caffeine Citrate, gr. 2 ...	1 to 3	—	100
,, Caffeine Compound	1 to 4	25	100
℞ Caffeinæ ... ... gr. 1 Antipyrini (Phenazoni) gr. 3			
, Calcium Carbonate Compound	1 to 4 before meals, or 1 occasionally	25	100
℞ Calcii Carb. Præcip. gr. 3-1/2 Mag. Carb. Pond. gr. 2-1/2 Sodii Chloridi ... gr. 1			

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Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued*		Issued in	
'TABLOID' BRAND—	DOSE	oval bots. of	bots. of
, Calcium Lactate, gr. 5 ...	1 to 3	25	100
, Calcium Sulphide, gr. 1/4 ...	1 to 4	—	100
,, ,, ,, gr. 1/2 ...	1 to 2		100
,, ,, ,, gr. 1 ...	1		100
Calomel, gr. 1/10, gr. 1/6, gr. 1/4 and gr. 1/2	1	100	—
,, Calomel, gr. 1 . . .	1 to 5	—	100
,, gr. 2 . . .	1 to 3	—	100
, gr. 3	1 to 2		100
, ,, gr. 5	1		100
Calomel and Creosote ... R Hydrargyri Chloridi Mitis gr. 1/6 Creosoti ... ... min. 1	1 to 5	—	100
Calomel and Jalap, N.F. ... R Hydrargyri Chloridi Mitis gr. 1 Pulv. Jalapæ... ... gr. 2	1 to 4	—	100
,, Calomel and Piperine, of each gr. 1/2	1 repeated	—	100
,, Calomel, gr. 1/2, and Sodium Bicarbonate, gr. 2-1/2 ...	1 or more	25	100
,, Calomel, gr. 1, and Sodium Bicarbonate, gr. 5	1 or more	25	100
,, Calomel Compound *(Plummer Pill)*, gr. 4 R Hydrargyri Chloridi Mitis gr. 1 Antimonii Sulphurati gr. 1 Guaiaci Resinæ ... gr. 2	1 to 2	25	100
, Camphorated Opium Tincture, (Paregoric), min. 2	1 frequently	100	-
, ,, , min. 5	1 frequently	48	100
,, ,, ,, min. 15	1 to 4	36	100
Camphor Essence (Saturated)	2 to 3	25	100
Cannabis Indica Tincture, min. 5	1 to 3	48	100

'Tabloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued*

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	bots. of
,, Capsicum Tincture, min. 1 ...	1 frequently	100	—
,, ,, ,, min. 5 ...	1 to 3 or more	—	100
,, Capsules (flexible) — Sandal Wood Oil, min. 5, boxes of 25	1 to 3 or more	—	—
,, Carbolic Acid (Phenol), gr. 1/4 (*for the throat*)	1 as required	25	100
,, Carbolic Acid (Phenol), gr. 1/2 (*for the throat*)	1 as required	25	100
,, Carbolic Acid, gr. 1/2, with Slippery Elm	1 occasionally	25	100
,, Carlsbad Salt, Effervescent Artificial, N.F., tubes of 25	1 or more as desired	—	—
,, Cascara Sagrada (Dry Extract), gr. 1	1 or more	25	100
,, ,, ,, ,, gr. 2	1 to 4	25	100
,, ,, ,, ,, gr. 3	1 to 3	25	100
,, ,, ,, ,, gr. 4	1 to 2	25	100
,, ,, ,, ,, gr. 5	1 as required	25	100
,, Cascara and Gentian Compound ℞ Ext. Cascaræ Sagradæ gr. 2 Ext. Nucis Vomicæ gr. 1/5 Ext. Belladonnæ ... gr. 1/10 Ext. Gentianæ ... gr. 1 Capsicini ... ... gr. 1/10	1 to 3	25	100
,, Cascara Compound ... ... ℞ Ext. Cascaræ Sagradæ gr. 1 Ext. Euonymi Sicci gr. 1/2 Iridini ... ... gr. 1/2 Ext. Nucis Vomicæ gr. 1/16 Ext. Hyoscyami ... gr. 1/3	1 to 4	25	100
,, Castor Oil, min. 5, boxes of 50	1 or more	—	—
,, Cathartic Compound... ... Each product equals one of the U.S.P. pills.	1 to 2	25	100
,, Cerebrin, gr. 5	1 or more	—	100
,, Cerium Oxalate, gr. 5 ...	1 to 2	—	100

'Tabloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued*	DOSE	Issued in oval bots. of	Issued in bots. of
'TABLOID' BRAND—			
,, Chalk, Aromatic Powder with Opium, N.F., gr. 5 ... Each contains approximately:— Chalk, gr. 1; Opium gr. 1/8, with aromatics	2 to 4 or more	25	100
,, Charcoal (Pure Willow), gr. 5, bottles of 40	1 or more as required	—	100
,, Chloral Hydrate, gr. 5 ...	1 to 4	—	100
,, ,, ,, gr. 10 ...	1 to 2	—	100
,, Cinchona Tincture, min. 30 ...	1 to 2	36	100
,, Cinchona Compound Tincture, min. 30	1 to 2	25	100
,, Citric Acid, gr. 5	1 to 4	—	100
,, Cocaine Hydrochloride (*see* 'Soloid' Brand Products)			
,, Cocaine Co. (*see* Voice, page 165)			
,, Codeine, gr. 1/4	1 to 4 or more	25	100
,, ,, gr. 1/2	1 to 4	25	100
,, Codeine and Nux Vomica ... ℞ Codeinæ Phosphatis gr. 1 Ext. Nucis Vomicæ gr. 1/4	1 to 2	25	—
,, 'Coffee-Mint' ... ... ℞ Sodii Bicarbonatis... gr. 3 Ammonii Bicarbonatis gr. 1/16 Ext. Coffeæ ... gr. 1/2 Cerii Oxalatis ... gr. 1/4 Ol. Menthæ Piperitæ *q.s.*	1 to 4 or more	25	100
,, Colchicum Compound ... ℞ Ext. Colchici Cormi gr. 1/2 Acidi Salicylici ... gr. 3	1 to 2	—	100
,, Colocynth and Hyoscyamus, N.F.... ... ... Each product equals one of the N.F. pills.	1 to 2	—	100
,, Colocynth Compound, N.F. Each product equals one of the N.F. pills.	1 to 2	—	100

'Tabloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued*		Issued in	
'TABLOID' BRAND—	DOSE	oval bots. of	bots. of
,, Cretæ Arom. c. Opio, Pulv., N.F., gr. 5 ... ... Each contains approximately:—Chalk, gr. 1; Opium, gr. 1/8, with aromatics.	2 to 4 or more	25	100
,, Cubeb and Belladonna, *Effervescent* ... ... ℞ Pulv. Cubebæ ... gr. 1/2 Ext. Belladonnæ ... gr. 1/20	1 as required	—	100
,, Cubeb Compound ... ... ℞ Oleo-resinæ Cubebæ gr. 1/4 Ammonii Chloridi... gr. 1/2 Glycyrrhizini ... gr. 1/4	1 as required	25	100
,, Didymin (Testicular Substance), gr. 5	1 increased to 4	—	100
,, Digitalin (Amorphous), gr. 1/100	1 to 3	50	—
,, Digitalis Tincture, min. 1 ...	1 frequently	100	—
,, ,, ,, min. 5 ...	1	48	100
,, Donovan Solution, min. 5 ... One represents min. 5 of Liq. Arsenii et Hydrargyri Iodidi, containing arsenious and mercuric iodides, of each, gr. 1/22.	1 to 4	—	100
,, Dover Powder (Ipecac. with Opium), gr. 1/4 ... ... Each contains Opium and Ipecacuanha, of each gr. 1/40	1 frequently	100	—
,, Dover Powder (Ipecac. with Opium), gr. 5 ... ... Each contains Opium and Ipecacuanha, of each gr. 1/2	1 to 3	25	100
,, Easton Syrup (Syrup of the Phosphates of Iron, Quinine and Strychnine), dr. 1/2 ...	1 to 2	25	100
,, Easton Syrup (Syrup of the Phosphates of Iron, Quinine and Strychnine), dr. 1 ... Presents, in a soluble condition, the amount of iron (ferric state), quinine and strychnine contained in corresponding doses of the official Syrup.	1	25	100

'Tabloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued*		Issued in	
'TABLOID' BRAND—	DOSE	oval bots. of	bots. of
,, Effervescent Products. 'Tabloid' Brand (*see* under the name of each product)			
,, Elaterin, gr. 1/40	1 to 4	25	—
,, Ergotin (Ergot Extract), gr. 1	1 to 4 or more	—	100
,, ,, ,, ,, gr. 2	1 to 4	—	100
,, ,, ,, ,, gr. 3	1 to 3	—	100
,, Ergotin and Strychnine ... R Ergotini (Ext. Ergotæ) gr. 3 Strychninæ Sulphatis gr. 1/30	1 to 2	—	100
,, Erythrol Tetranitrate (Tetranitrin), gr. 1/4, tubes of 25...	1 to 4	—	—
,, Erythrol Tetranitrate (Tetranitrin), gr. 1/2	1 to 2	25	—
,, Erythrol Tetranitrate (Tetranitrin), gr. 1	1	12	—
,, Euonymin (Euonymus Dry Extract), gr. 1/8	1 to 4 or more	50	—
,, Euonymin (Euonymus Dry Extract), gr. 1/2	1 to 4	50	—
,, Exalgin. gr. 2	1 to 2	—	100
,, Fellis Bovis Purificati, gr. 4	1 to 4	—	100
,, Fellis Porcini Purificati, gr. 4	1 to 4	—	100
,, Ferric Chloride, min. 10 ... One represents the amount of Ferric Chloride in min. 10 of Tincture Ferri Chloridi. It contains a small quantity of ammonium chloride as a vehicle.	1	—	100
,, Ferric Chloride and Arsenic... R Tinct. Ferri Chloridi... min. 10 Acidi Arseniosi ... gr. 1/30	1	—	100
,, Ferruginous (*see* Blaud)			
,, Ferrum (*see* Iron)			

'Tabloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued*		Issued in	
'TABLOID' BRAND—	DOSE	oval bots. of	bots. of
,, 'Forced March' ... ... Containing the combined active principles of Kola Nut and Coca Leaves.	1 every hour, if required	—	25 and 100
,, Galbanum Comp. (Asafetida Compound) ... ... ℞ Asafœtidæ, Galhani Myrrhæ, āā gr. 1-1/7.	1 to 2	—	100
,, Gelsemium Tincture, min. 5	1 to 3	48	100
,, Ginger Essence (Soluble), N.F. min. 5	1 to 4	48	100
,, ,, ,, min. 10	1 to 2	—	100
,, Glycerophosphates Compound, dr. 1/2 ... ... Each contains Calcium, Sodium, Potassium, Magnesium and Iron Glycerophosphates, Kola, Pepsin and Diastase, with gr. 1/800 of Strychnine Glycerophosphate, and is equivalent to 1/2 fluid drachm of Syrup of Glycerophosphates.	1 to 8	25	100
,, Gregory Powder (Rhubarb Co. Powder), gr. 5 ... Each contains : — Rhubarb, gr. 1-1/4; Magnesium Oxide, gr. 3-1/4; and Ginger, gr. 1/2	1 to 4 or more	25	100
,, Grey Powder, gr. 1/4, gr. 1/3 and gr. 1/2	1 repeated	100	—
,, ,, ,, gr. 1	1 to 5	100	—
,, ,, ,, gr. 2	1 to 3	—	100
,, ,, ,, gr. 3	1 to 2	—	100
,, ,, ,, gr. 5 ... ... The 'Tahloid' products contain 38 per cent. of pure metallic mercury.	1	—	100
,, Grey Powder and Dover Powder, of each gr. 1/2 ... Each contains : — Mercury, gr. 1/5, Opium and Ipecacuanha, of each gr. 1/20.	1 to 5 or more	—	100

'Tabloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued* 'TABLOID' BRAND—	DOSE	Issued in oval bots. of	Issued in bots. of
,, Grey Powder and Dover Powder, of each gr. 1 ... Each contains: — Mercury, gr. 2/5, Opium and Ipecacuanha, of each gr. 1/10.	1 to 5	—	100
,, Grey Powder and Opium ... ℞ Hydrarg. c. Cretâ... gr. 1 Pulv. Opii ... ... gr. 1/6	1 to 5	—	100
,, Grey Powder, gr. 1/2, and Sodium Bicarbonate, gr. 2-1/2	1 repeated	—	100
,, Grey Powder, gr. 1, and Sodium Bicarbonate, gr. 5	1 to 5	25	100
,, Grey Powder, Opium and Quinine ... ... ℞ Hydrargyri cum Cretâ gr. 1-1/2 Extracti Opii ... gr. 1/6 Quininæ Sulphatis gr. 1-1/2	1 to 3	—	100
,, Guaiacol Camphorate, gr. 5	1 to 2 increased	25	100
,, Guaiacum and Quinine Compound ... ... ℞ Guaiaci Resinæ ... gr. 2 Sulphuris ... ... gr. 2 Quininæ Salicylatis gr. 1/2	1 to 4	—	100
,, Guaiacum and Sulphur ... ℞ Guaiaci Resinæ ... gr. 3 Sulphuris Præcipitati gr. 3	1 to 4	25	100
,, Guaiacum Resin, gr. 5 ...	1 to 3	25	100
,, Hæmoglobin, gr. 5	1 or more	—	100
,, Hydrarg. c. Cretâ. (*see* Grey Powder)			
,, Hydrarg. Iodid. Flav., gr. 1/8	1 to 4	25	100
,, Hydrarg. Iodid. Rubr., gr. 1/20	1	50	—
,, ,, ,, ,, gr. 1/16	1	50	—
,, Hydrarg. Iodid. Virid., gr. 1/8	1 to 4 increased	50	—
,, Hydrargyri Chloridi Corrosivi (Mercuric Chloride), gr. 1/100	1 to 4 or more	100	—

'Tabloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued*		Issued in	
'TABLOID' BRAND—	DOSE	oval bots. of	bots. of
,, Hydrargyri Chloridi Corrosivi (Mercuric Chloride), gr. 1/16	1	100	—
,, Hydrarg. Chlor. Corrosiv., gr. 1/32, et Potass. Iodid. gr. 2-1/2	1 to 2	—	100
,, Hydrarg. Chlor. Corrosiv., gr. 1/16 et Potass. Iodid. gr. 5	1	—	100
,, Hydrarg. Subchlor. (*see* Calomel)			
,, Hydrarg. Chlor. Mit. Comp. (Plummer Pill). gr. 4 ... ℞ Hydrargyri Chloridi Mitis ... ... gr. 1 Antimonii Sulphurati gr. 1 Guaiaci Resinæ ... gr. 2	1 to 2	25	100
,, Hydrastine Compound ... ℞ Hydrastinæ Hydrochloridi gr. 1/4 Ext. Ergotæ (Ergotini) gr. 1/2 Cannabinæ Tannatis gr. 1/2	1 to 3 repeated	25	100
,, Hydrastine Compound and Cotarnine Hydrochloride ... ℞ Hydrastinæ Hydrochloridi gr. 1/4 Ext. Ergotæ (Ergotini) gr. 1/2 Cannabinæ Tannatis gr. 1/2 Cotarninæ Hydrochloridi gr. 1/4	1 to 3 repeated	25	100
,, Hydrastine Hydrochloride, gr. 1/4	1 to 4 repeated	—	100
,, Hyoscyamus Tincture, min. 10	1 to 4 or more	36	100
,, Hypodermic Products (*see* page 115)			

'Tabloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued*		Issued in	
'TABLOID' BRAND—	DOSE	oval bots. of	bots. of
,, Hypophosphites Compound, gr. 1½ ... ... Containing gr. 1-1/2 of the combined hypophosphites of calcium, potassium, sodium, manganese, iron and quinine, with gr. 1/128 of hypophosphite of strychnine.	1 to 2	25	100
,, Hypophosphites Compound, gr. 3 ... ... Containing gr. 1/64 of hypophosphite of strychnine ...	1	25	100
,, Ichthyol, gr. 2½	1 to 4	25	100
,, Ipecacuanha Powder, gr. 1/10	1 frequently	100	—
,, ,, ,, gr. 5 ...	1 every hour	—	100
,, ,, ,, deprived of its Emetic Principles, gr. 5	1 to 4 or more	—	100
,, Ipecacuanha and Tartarated Antimony, of each gr. 1/100	1 frequently	—	100
,, Ipecacuanha Wine, min. 5 ...	1 to 3 (*expectorant*)	50	100
,, Ipecacuanha with Opium (*see* Dover Powder)			
,, Ipecacuanha with Squill ... ℞ Pulv. Ipecacuanhæ cum Opio ... ... gr. 2 Scillæ ... ... gr. 2/3 Ammoniaci ... ... gr. 2/3	1 to 2	—	100
,, Iridin Compound ... ... ℞ Iridini ... ... gr. 2 Ext. Hyoscyami ... gr. 1/2 Pil. Rhei Comp. ... gr. 1-1/2	1 to 2	25	100
,, Iron and Arsenic Compound ℞ Ferri Hypophosphitis gr. 2 Quininæ Bisulphatis gr. 1 Acidi Arseniosi ... gr. 1/50 Strychninæ Sulphatis gr. 1/50 Saccharini ... ... gr. 1/150	1 to 3	—	100

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Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued*		Issued in	
'TABLOID' BRAND—	DOSE	oval bots. of	bots. of
,, Iron and Quinine Citrate, gr. 3 Each contains Quinine, approximately gr. 1/3	1 to 3	25	100
,, Iron and Strychnine Phosphates ... ... ℞ Ferri Phosphatis Solubilis gr. 1 Strychninæ Phosphatis gr. 1/32	1	25	100
,, Iron, Arsenic and Digitalin ... ℞ Ferri Phosphatis Solubilis gr. 3 Acidi Arseniosi ... gr. 1/100 Digitalini (Amorph.) gr. 1/100	1 to 3	25	100
,, Iron Carbonate Saccharated, gr. 5...	1 to 6	—	100
,, Iron Glycerophosphate, gr. 3	1 to 2	25	100
,, Iron Phosphate with Quinine and Strychnine (*see* Easton Syrup)			
,, Iron Pill (*see* Blaud)			
,, Iron, Reduced (*see* Reduced Iron)			
,, Iron Sulphate, Dried, gr. 3...	1	—	100
,, Iron Valerianate, gr. 1 ...	1 or more	—	100
,, Jalap, gr. 5	1 to 4	—	100
,, Juniper Oil, min. 3, boxes of 50	1	—	—
,, Kino Compound Powder, N.F., gr. 5 ... ... Each contains:—Kino, gr. 3-3/4; Opium, gr. 1/4; Cinnamon, gr. 1	1 to 4	—	100
,, Kissengen Salt, N.F., *Effervescent*, Artificial, tubes of 25	1 or more as required	—	—
,, Krameria and Cocaine ... ℞ Ext. Krameriæ ... gr. 1 Cocainæ Hydrochloridi gr. 1/20	1 occasionally	25	100

'Tabloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued*	DOSE	Issued in oval bots. of	bots. of
'TABLOID' BRAND—			
,, Laxative Vegetable	1 to 3	25	100
℞ Ext. Colocynthidis Comp. ... ... gr. 1 Ext. Jalapæ ... gr. 1/2 Resinæ Podophylli gr. 1/4 Leptandrini... ... gr. 1/2 Ext. Hyoscyami ... gr. 1/4 Ext. Taraxaci ... gr. 1/4 Ol. Menthæ Piperitæ *q.s.*			
,, Lead with Opium, gr. 2	1	—	100
Each product equals one of the N.F. pills.			
,, Lithium Benzoate Compound	1 to 4 or more	—	100
℞ Lithii Benzoatis ... gr. 3 Sulphuris Præcipitati gr. 2 Quininæ Salicylatis gr. 1/3			
,, Lithium Carbonate, gr. 2 ...	1 to 3	—	100
,, Lithium Citrate, gr. 5, *Effervescent*	1 to 2	25	100
,, Lithium Citrate and Sodium Sulphate, *Effervescent*, tubes of 25...	1 to 2	—	—
℞ Lithii Citratis ... gr. 5 Sodii Sulphatis ... gr. 30			
,, Lithium Citrate and Urotropine, *Effervescent*, tubes of 25	1 or more	—	—
℞ Lithii Citratis ... gr. 5 Urotropinæ ... gr. 3 Salis Effervescentis *q.s.*			
,, Lithium Citrate Effervescent, gr. 60, tubes of 25	1 to 2	—	—
Each contains about gr. 3 of Lithium Citrate			
,, Livingstone Rouser	1 to 3	25	100
℞ Pulv. Jalapæ ... gr. 1-1/2 Hydrargyri Chloridi Mitis ... gr. 1 Pulv. Rhei ... ... gr. 1-1/2 Quininæ Bisulphatis gr. 1			

'Tabloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

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'Tabloid' Brand Products—*continued*		Issued in	
'TABLOID' BRAND—	DOSE	oval hots. of	bots. of
,, Magnesium Carbonate Compound ... ... ℞ Magnesii Carb. ... gr. 2 Sodii Bicarbonatis gr. 2 Potass. Bicarbonatis gr. 2 Sodii Chloridi ... gr. 3	1 to 4	25	100
,, Magnesium Citrate (*True*) Effervescent, gr. 60, tubes of 25	1 to 3	—	—
,, Magnesium Sulphate Effervescent, gr. 60, tubes of 25 Each represents gr. 30 of Magnesium Sulphate	1 to 4	—	—
,, Magnesium Sulphate Compound, Effervescent, tubes of 25 ... ... ℞ Magnesii Sulphatis gr. 15 Sodii Sulphatis ... gr. 15 Magnesii Carbonatis gr. 5 Liq. Zingiberis, N.F. min. 18	1 to 4	—	—
,, Magnesium Sulphite, gr. 5 ...	1 frequently	—	100
,, 'Mamos' (*Trade Mark*) (*formerly known as* 'Tabloid' Mammary Gland), gr. 5 ...	1 increased	—	100
,, Manganese and Iron Citrate (*soluble*), gr. 3	1 to 3	25	100
,, Manganese and Iron Citrate (*soluble*), gr. 5	1 to 2	25	100
,, Manganese and Iron Citrate with Quinine (*soluble*), gr. 3 Each contains Quinine, approximately gr. 1/2	1 to 3	25	—
,, Manganese and Iron Citrate with Quinine (*soluble*), gr. 5 Each contains Quinine, gr. 3/4	1 to 2	25	—
,, Manganese and Iron Citrate with Strychnine (*soluble*), gr. 1... ... ... Each contains Strychnine, gr. 1/100	1 to 3	25	100
,, Manganese and Iron Phosphate (*soluble*), gr. 3 ...	1 to 3	25	100

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'Tabloid' Brand Products—*continued* 'TABLOID' BRAND—	DOSE	Issued in oval bots. of	bots. of
,, Manganese and Iron Phosphate *(soluble)*, gr. 5 ...	1 to 2	25	100
,, Manganese Citrate *(soluble)*, gr. 3...	1 to 3	25	—
,, Manganese Citrate *(soluble)*, gr. 5...	1 to 2	25	—
,, Manganese Dioxide, gr. 2 ...	1 to 5	25	100
,, Menthol, gr. 1/4	1 repeated	—	40 and 100
,, Menthol Compound ... ... R Menthol ... ... gr. 1/2 Sodii Bicarbonatis... gr. 3 Saccharini ... ... gr. 1/6	1 to 4	—	100
,, Mercuric Potassium Iodide, gr. 1/6	1		100
,, Mercury Green Iodide (*see* Hydrarg. Iod. Vir.)			
,, Mercury Perchloride (*see* Hydrarg. Chlor. Corrosiv.)			
,, Mercury Red Iodide (*see* Hydrarg. Iod. Rubr.)			
Mercury Subchloride. (*see* Calomel)			
,, Mercury with Chalk, and combinations (*see* Grey Powder and combinations)			
,, Mercury Yellow Iodide (*see* Hydrarg. Iod. Flav.)			
,, Methylene Blue, gr. 2 ...	1 to 2	—	100
Milk Sugar, gr. 3	—	—	100
,, Mineral Water Salts, Effervescent (*see* Carlsbad, Kissingen, Seltzer and Vichy)			
,, Mistura Alba ... ... R Magnesii Carb. Pond. gr. 2-1/2 Magnesii Sulphatis gr. 15 Ol. Menthæ Pip. min. 1/32	1 to 8	—	100

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'Tabloid' Brand Products—*continued*	DOSE	Issued in oval bots. of	Issued in bots. of
'TABLOID' BRAND—			
,, Morphine and Emetine ...	1	—	50
℞ Morphinæ Sulphatis gr. 1/40 Emetine Hydrobromidi gr. 1/80			
,, Morphine, Strychnine and Belladonna	1 as required	25	100
℞ Morphinæ Sulphatis gr. 1/12 Strychninæ Sulphatis gr. 1/60 Ext. Belladonnæ gr. 1/20			
,, Morphine Sulphate, gr. 1/20	1 to 4 or more	50	—
,, ,, ,, gr. 1/8	1 to 4	50	—
,, ,, ,, gr. 1/4	1 to 2	50	—
,, Mucin Compound	2 or more	25	100
℞ Mucini ... ... gr. 5 Sodii Bicarbonatis gr. 5			
,, Nasal (*see* 'Soloid' Brand Products)			
,, Nitroglycerin (*see* Trinitrin)			
,, Nux Vomica Compound ...	1 to 3	25	100
℞ Ext. Nucis Vomicæ Aloini Ferri Sulphatis Pulv. Myrrhæ Pulv. Saponis āā gr. 1/2			
,, Nux Vomica Tincture, min. 1	1 frequently	100	—
,, ,, ,, ,, min. 5	1 to 3	48	100
,, ,, ,, ,, min. 10	1	36	100
,, Ophthalmic Products (*see* page 123)			
,, Opium, gr. ½	1 to 4	—	100
,, ,, gr. 1	1 to 2	—	100
,, Opium Tincture (Laudanum), min. 2	1 or more	48	100
,, Opium Tincture (Laudanum), min. 5	1 to 6	48	100
,, Opium Tincture (Laudanum), min. 10	1 to 3	36	100
,, Ovarian Substance (*see* 'Varium')			
,, Ox Bile, Purified, gr. 4 ...	1 to 4	—	100

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Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued*		Issued in	
'TABLOID' BRAND—	DOSE	oval bots. of	bots. of
,, Papain, gr. 2	1 to 4	25	100
,, Paregoric (Tinct. Opii Camphorata), min. 2	1 frequently	100	—
,, ,, ,, ,, min. 5	1 frequently	48	100
,, ,, ,, ,, min. 15	1 to 4	36	100
,, Pastilles (*see* page 125)			
,, Pelletierine Tannate, gr. 2 ...	1 to 4	25	—
,, 'Pepana' *(Trade Mark)* ... (Gastro-enteric digestive) ℞ Pepsini ... ... gr. 1 Pancreatini ... ... gr. 1 Calcii Lactophosphatis gr. 1	1 to 3	25	100
,, Pepsin and Strychnine ... ℞ Pepsini ... .. gr. 2 Strychninæ Sulphatis gr. 1·1/100	1 to 3	25	100
,, Pepsin, Bismuth and Charcoal ℞ Pepsini ... ... gr. 2 Bismuthi Subcarbonatis gr. 2 Carbonis Ligni ... gr. 2	1 to 3	25	100
,, Pepsin, Bismuth and Strychnine ... ... ℞ Pepsini ... ... gr. 2 Bismuthi Subcarbonatis gr. 3 Strychninæ Sulphatis gr. 1/100	1 to 3	25	100
,, Pepsin, Saccharated, gr. 5 ...	1 to 4 or more	—	100
,, Phenazone (*see* Antipyrine)			
,, Photographic *(see pages 126-128)*			
,, Pig Bile, Purified, gr. 4 ...	1 to 4	—	100
,, Pilocarpine Nitrate, gr. 1/10	1 to 5	25	—
,, ,, ,, gr. 1/4 . .	1 to 2	25	—
,, Piperazine, gr. 5	1 to 2	—	25
,, Piperazine, gr. 5, *Effervescent*, tubes of 12	1 to 2		
,, Pituitary Gland, gr. 2 ...	1 to 3	—	100
,, Plummer Pill (*see* Calomel)			
,, Podophyllin, gr. 1/4	1 to 4	100	—

'Tabloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued*		Issued in	
'TABLOID' BRAND—	DOSE	oval bots. of	bots. of
,, Podophyllin and Euonymin ...	1 to 2	—	100
℞ Resinæ Podophylli gr. 1/4 Ext. Euonymi Sicc. gr. 1			
,, Podophyllin Compound ...	1 to 3	—	100
℞ Resinæ Podophylli gr. 1/6 Pil. Rhei Comp. ... gr. 2-1/2 Ext. Hyoscyami ... gr. 1-1/4			
,, Potassium Bicarbonate, gr. 5	1 to 6	40	100
,, Potassium Bromide, gr. 5 ...	1 to 6	—	100
,, ,, ,, gr. 10 ...	1 to 3	—	100
,, Potassium Chlorate, gr. 5 ... Also in white-metal boxes containing 40 and 100	1 as required	40	100
,, Potassium Chlorate and Borax Also in white-metal boxes containing 40 and 100	1 as required	40	100
,, Potassium Chlorate, Borax and Cocaine Co. (*see* Voice)			
,, Potassium Iodide, gr. 1 ...	1 frequently *(expectorant)*	—	100
,, ,, ,, gr. 3 ...	1 to 6	—	100
,, ,, ,, gr. 5 ...	1 to 4	—	100
,, Potassium Nitrate (Sal Prunella), gr. 5...	1 to 4	—	100
,, Potassium Permanganate, gr. 1	1 to 3	—	100
,, ,, ,, gr. 2	1	—	100
,, Prostate Gland, gr. 2-1/2 ...	1 to 2	—	100
,, Quinine. Ammoniated (*see* Ammoniated Quinine)			
,, Quinine, Arsenic and Strychnine	1	—	100
℞ Quininæ Bisulphatis gr. 1 Acidi Arseniosi ... gr. 1/20 Strychninæ ... gr. 1/30			
,, Quinine and Camphor ...	1 to 5	25	100
℞ Quininæ Bisulphatis gr. 1 Camphoræ ... .. gr. 1/5			

'Tabloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued* 'TABLOID' BRAND—	DOSE	Issued in oval bots. of	bots. of
,, Quinine and Strychnine ... R Quininæ Bisulphatis gr. 1 Strychninæ Sulphatis gr. 1/60	1 to 3	25	100
,, Quinine, Belladonna and Camphor ... ... R Quininæ Sulphatis gr. 1/4 Ext. Belladonnæ ... gr. 1/8 Camphoræ ... ... gr. 1/4	1 to 4	25	100
,, Quinine Bihydrochloride, gr. 10	1	25	100
,, Quinine Bisulphate, gr. ½ ...	1 or more	50	100
,, ,, ,, gr. 1 ...	1 or more	36	100
,, ,, ,, gr. 2 ...	1 to 5	25	100
,, ,, ,, gr. 3 ...	1 to 3	25	100
,, ,, ,, gr. 4 ...	1 to 2	25	100
,, ,, ,, gr. 5 ...	1 to 2	25	100
,, ,, ,, gr. 10 ...	1	25	100
,, Quinine Bisulphate and Potassium Citrate, *Effervescent*, tubes of 25 ... ... R Quininæ Bisulphatis gr. 1 Potassii Citratis ... gr. 15	1 to 2, repeated as necessary		
,, Quinine, Camphor and Aconite R Quininæ Bisulphatis gr. 1/4 Camphoræ ... ... gr. 1/4 Tinct. Aconiti ... min. 1	1 every hour	25	100
,, Quinine Compound ... ... R Cinchonæ Alkaloidorum gr. 1 Acetanilidi ... ... gr. 1-1/5 Camphoræ Monobromatæ gr. 1/5 Pulv. Ipecacuanhæ gr. 1/8 Ext. Cascaræ Sagradæ gr. 1/4	1 every hour	25	100
,, Quinine Hydrobromide, gr. 3	1 to 3	25	100
,, ,, ,, gr. 5	1 to 2	25	100
,, Quinine Hydrochloride, gr. 1	1 or more	25	100
,, ,, ,, gr. 2	1 to 5	25	100
,, ,, ,, gr. 3	1 to 3	25	100

'Tabloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued*

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	Issued in bots. of
,, Quinine Hydrochloride, gr. 4	1 to 2	25	100
,, ,, ,, gr. 5	1 to 2	25	100
,, Quinine Salicylate *(physiologically pure)*, gr. 1 ...	1 to 6	25	100
,, Quinine Salicylate *(physiologically pure)*, gr. 3 ...	1 to 2	25	100
,, Quinine Sulphate, gr. 1, gr. 2, gr. 3, gr. 4 and gr. 5 are supplied in packages of the same size as Quinine Bisulphate.			
,, Quinine Valerianate, gr. 2 ...	1 to 2	—	100
,, Red Gum	1 occasionally	25	100
,, Reduced Iron, gr. 2	1 to 3	—	100
,, Reduced Iron and Rhubarb Compound	1 to 2	25	100
℞ Ferri Reducti ... gr. 2 Ext. Hyoscyami ... gr. 1 Ext. Nucis Vomicæ gr. 1/2 Pil. Rhei Comp. ... gr. 1 Olei Cari ... ... min. 1/4			
,, Reduced Iron Compound ...	1 to 2	25	100
℞ Ferri Reducti ... gr. 2 Ext. Hyoscyami ... gr. 1 Ext. Nucis Vomicæ gr. 1/2 Olei Cari ... ... min. 1/4			
,, Residuum Rubrum, gr. 5 ...	1 to 4	—	100
,, Resorcin, gr. 3	1 to 2	—	100
,, Rhubarb, gr. 3	1 to 4 or more	25	100
,, Rhubarb and Soda	1 to 5	25	100
℞ Pulv. Rhei ... gr. 3 Sodii Bicarbonatis gr. 1-1/2 Pulv. Zingiberis ... gr. 1/2			
,, Rhubarb Compound Pill ...	1 to 2	25	100
Each product equals one of the U.S.P. pills.			
,, Rhubarb Compound Powder (Gregory Powder), gr. 5 ...	1 to 4 or more	25	100
Each contains: Rhubarb, gr. 1-1/4; Heavy Magnesia, gr. 3-1/4, and Ginger, gr. 1/2			

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Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued*

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	bots. of
,, Rhubarb Extract, gr. 2 ...	1 to 4	25	100
,, Rhubarb, Soda and Magnesia	1 to 5	25	100
℞ Pulv. Rhei ... gr. 1 Sodii Bicarbonatis gr. 1-1/2 Magnesii Carbonatis gr. 2 Pulv. Zingiberis ... gr. 1/2			
,, Saccharin, gr. 1/2		100 & 200	—
,, Salicin, gr. 5	1 to 4	25	100
,, Salicylic Acid (*physiologically pure*), gr. 3	1 to 4 or more	—	100
,, Salicylic Acid (*physiologically pure*), gr. 5	1 to 4	—	100
,, Salol. gr. 5	1 to 3	25	100
,, Santonin, gr. 1/2	1 to 4 or more	50	—
,, ,, gr. 2	1 to 3	50	—
,, ,, gr. 3	1 to 2	50	—
,, Santonin and Calomel ...	1 to 3	25	100
℞ Santonini ... ... gr. 1 Hydrargyri Chloridi Mitis gr. 1			
'Saxin,' gr. 1/4 (*see* page 130)			
,, Seltzer Salt, Effervescent, Artificial, tubes of 25 ...	1 or more, as desired		
,, Slippery Elm, gr. 5	1 or more	25	100
,, Soda-Mint (*Neutralizing*) ...	1 to 4 or more	30	100
℞ Sodii Bicarbonatis... gr. 4 Ammon. Bicarb. ... gr. 1/12 Ol. Menthæ Piperitæ *q.s.* Possesses the advantage over the N.F. product in being made with Oil of Peppermint in place of Oil of Spearmint.			
,, Sodium Bicarbonate, gr. 5 ...	1 to 6	40	100
,, ,, ,, gr. 10...	1 to 3	40	100
,, Sodium Bromide, gr. 5 ...	1 to 6	—	100
,, ,, ,, gr. 10 ...	1 to 3	—	100
,, Sodium Citrate, gr. 2 ...	for milk modification	—	100

'Tabloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued* 'TABLOID' BRAND—	DOSE	Issued in oval bots. of	bots. of
,, Sodium Salicylate *(natural)*, gr. 3	1 to 6 or more	25	—
,, ,, ,, ,, gr. 5	1 to 6	25	—
,, Sodium Salicylate *(physiologically pure)*, gr. 3 ...	1 to 6 or more	25	100
,, Sodium Salicylate *(physiologically pure)*, gr. 5 ...	1 to 6	25	100
,, Sodium Salicylate *(physiologically pure)*, gr. 5, *Effervescent*, tubes of 25... ...	1 or more	—	—
,, Sodium Salicylate and Potassium Bicarbonate, of each gr. 5	1 to 6	25	100
,, Sodium Sulphate Compound, Effervescent, tubes of 20 ... ℞ Sodii Sulphatis Exsiccati gr. 30 Potassii Bitartratis gr. 10 Potassii Bicarbonatis gr. 2-1/2 Ess. Zingiberis ... *q.s.* Salis Effervescentis *q.s.*	1 to 2		
,, Sodium Sulphate Effervescent, gr. 60, tubes of 25 ... ... Each represents gr. 30 of Sodium Sulphate	1 or more		
,, Sparteine Sulphate, gr. 1 ...	1	—	25
,, Spinal Cord Substance, gr. 2-1/2	1 or more	—	100
,, Spleen Substance, gr. 5 ...	1 or more	—	100
,, Strontium Bromide, gr. 5 ...	1 to 6	—	100
,, Strophanthus Tincture, min. 5	1 to 3	50	100
,, Strychnine Sulphate, gr. 1/60	1 to 4	50	—
,, ,, ,, gr. 1/30	1 to 2	50	—
,, ,, ,, gr. 1/20	1	50	—
,, ,, ,, gr. 1/15	1	50	—
,, Sugar of Milk, gr. 3		—	100
,, Sulphur Compound ... ... ℞ Sulpburis Præcipitati gr. 5 Potassii Bitartratis gr. 1	1 to 4 or more	25	100

'Tabloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued* 'TABLOID' BRAND—	DOSE	Issued in oval bots. of	Issued in bots. of
,, Supra-renal Gland, gr. 5 ...	1 to 3	—	100
,, Tannin, gr. 2-1/2	1 to 2	—	100
,, Tar, gr. 1	1 frequently	50	100
,, Tar and Codeine	1 to 4	25	100
℞ Picis Liquidæ ... gr. 1 Codeinæ ... ... gr. 1/8			
,, Tea (*see* page 166)			
,, Tetranitrin (*see* Erythrol Tetranitrate)			
,, Thirst Quencher	1 to 2 or more, as desired	25	100
Containing Tartaric Acid and Sodium Bicarbonate, flavoured with Lemon and 'Saxin'			
,, Three Bromides Effervescent, tubes of 25	1 to 2	—	—
℞ Potassii Bromidi 0·4 gm. [gr. 6] Sodii Bromidi 0·4 gm. [gr. 6] Ammonii Bromidi 0·2 gm. [gr. 3] Salis Effervescentis *q.s.*			
,, Three Valerianates	1	—	100
℞ Quininæ Valerianatis... gr. 1 Ferri Valerianatis... gr. 1 Zinci Valerianatis... gr. 1			
,, Thymol, gr. 1	1 to 2	25	—
,, ,, gr. 2	1	25	—
,, ,, gr. 5	Used in special cases	—	100
,, Thymus Gland, gr. 5 ...	1 to 5	—	100
,, Thyroid Colloid, gr. 1/2 ...	1 or more	—	100
,, Thyroid Gland, gr. 1/2 ...	1 or more	—	100
,, ,, ,, gr. 1-1/2 ...	1 or more	—	100
,, ,, ,, gr. 2-1/2 ...	1 or more	—	100
,, ,, ,, gr. 5 ...	1	—	100
,, Tonic Compound	1 to 3	25	100
℞ Ferri Pyrophosphatis... gr. 2 Quininæ Bisulphatis gr. 1 Strychninæ Sulphatis... gr. 1/100			

'Tabloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued*	DOSE	Issued in oval bots. of	Issued in bots. of
'TABLOID' BRAND—			
,, Trinitrin (Nitroglycerin), gr. 1/200	1 or more	25	100
,, ,, ,, gr. 1/100	1 to 2	25	100
,, ,, ,, gr. 1/50	1	25	100
,, Trinitrin Compound	1 to 2	25	100
℞ Trinitrini ... ... gr. 1/100 Capsicini ... ... gr. 1/200 Menthol ... ... gr. 1/100			
,, Urotropine, gr. 3	1 to 5	25	100
,, ,, gr. 5	1 to 3	25	100
,, 'Varium' (*Trade Mark*) *(formerly known as* 'Tabloid' Ovarian Substance), gr. 5...	1 to 2 or more	—	100
,, Vegetable Laxative (*see* Laxative Vegetable)			
,, Viburnum Prunifolium Extract, gr. 2...	1 to 5	—	100
,, Vichy Salt, Effervescent, Artificial, N.F., tubes of 25 ...	1 or more, as desired		
,, Vichy Salt, Effervescent, Artificial, and Lithium Citrate, N.F., tubes of 25	1 or more, as desired		
In addition to the essential constituents of Vichy Water, each contains Lithium Citrate, gr. 2-1/4			
,, Vinum Ipecacuanhæ (*see* Ipecacuanha Wine)			
,, Voice (Potassium Chlorate, Borax and Cocaine Co.) ... Also in white metal boxes containing 25 and 80	1 as required	25	80
,, Zinc Oxide, gr. 2	1 to 5	—	100
,, Zinc Valerianate, gr. 2	1	—	100
,, Zinc Valerianate Compound...	1	—	100
℞ Zinci Valerianatis gr. 1 Pulv. Rhei ... gr. 1 Ext. Belladonnæ gr. 1/8 Pulv. Zingiberis gr. 1			

'Tabloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

'Tabloid' Brand Products—*continued*

'TABLOID' BRAND—	DOSE	Issued in oval bots. of	Issued in bots. of
,, Zinc Valerianate and Asafetida Compound	1	—	100
℞ Zinci Valerianatis ... gr. 1			
Asafœtidæ ... ... gr. 1			
Myrrhæ ... ... gr. 1/2			
,, Zinc Valerianate with Iron and Arsenic	1	—	100
℞ Zinci Valerianatis ... gr. 2			
Ferri Reducti ... gr. 1			
Acidi Arseniosi ... gr. 1/60			
Ext. Gentianæ ... gr. 1			
,, Zingib. (*See* Ginger.)			

Also a wide range of other products issued under the 'Tabloid' Brand

'Tabloid' Brand Tea provides the most convenient, portable and effective means of quickly preparing tea of uniform strength. It is the most suitable tea for travellers, sportsmen, cyclists, pleasure parties, etc. A tin of 'Tabloid' Tea and a bottle of 'Saxin' for sweetening the infusion may be conveniently carried in the waistcoat pocket.

In gold lacquered tins of 100 and 200

'Tabloid' Brand Tea, Special Blend, exceptional quality—

In white enamelled tins of 100 and 200

Terebene, Pure (B. W. & Co.)— DOSE

1 oz., 2 oz., 16 oz. bottles ... ... 5 to 15 min.

Trade Mark 'VALOID' BRAND PRODUCTS

The word 'Valoid' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

'VALOID' BRAND—	DOSE
,, Aromatic Cascara Sagrada, 4 fl. oz. bottles	10 to 60 min.
,, Ergot, 4 fl. oz. bottles	10 to 30 min.

The strength of each 'Valoid' preparation is indicated on the label.

Various other products are also issued under this brand

'Tabloid' Brand Products are also issued in bottles of 500, *with the exception of those put up in tubes only*

Pharmacopœial preparations are U.S.P. unless otherwise stated

Trade Mark 'VALULE' BRAND PRODUCTS

The word 'Valule' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

'VALULE' BRAND—	DOSE
,, Bone Medulla, gr. 5, bottles of 100 ... (*See also* 'Tabloid' Bone Medulla)	1 or more

Various other products are also issued under this brand

Trade Mark 'VAPOROLE' BRAND PRODUCTS

The word 'Vaporole' is a brand which designates fine products issued by Burroughs Wellcome & Co. This brand should always be specified when ordering.

'VAPOROLE' BRAND—	DOSE
,, Amyl Nitrite, min. 3 or min. 5, boxes of 12,	1 (by inhalation)
,, Iron and Arsenic Solution, Sterilised, for hypodermic injection, boxes of 12 phials	1 to 3

℞ Ferri Citratis Viridis ... 0·05 gm.
Sodii Arsenatis Exsicc. ... 0·002 gm.
Aquam ... ... ad 1·0 c.c.

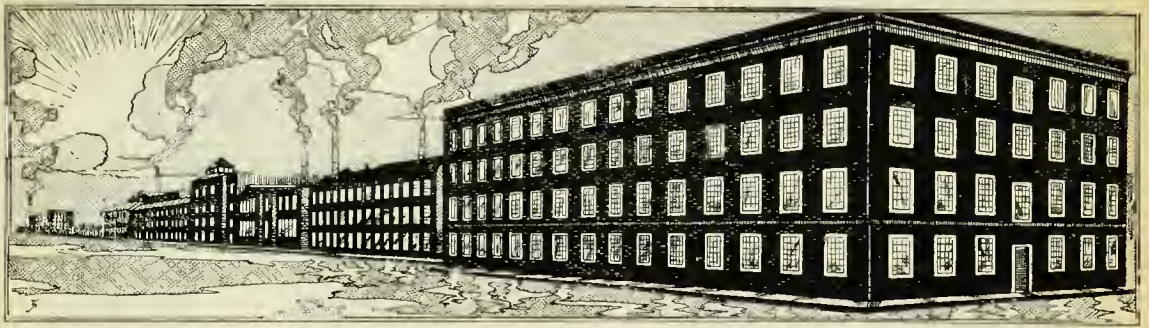
Various other products are also issued under this brand

'Vereker' Ammonium Chloride Inhaler. Delivers neutral fumes of ammonium chloride.

Water Analysis Case (*see* page 100)

'Wellcome' Brand Products (*see* page 169)

Verbal instructions are not safe. To prevent fraud, it is best to write prescriptions for original bottles . .



THE 'WELLCOME' CHEMICAL WORKS AND LABORATORIES, DARTFORD, NEAR LONDON, ENGLAND

'WELLCOME' BRAND PRODUCTS

Purity and reliability

The purity and reliability of drugs are matters of the utmost importance to prescriber, dispenser, and patient alike, and every opportunity should therefore be taken to ensure the supply of those chemicals which are known to be thoroughly genuine and trustworthy.

In order that goods answering to this description in the highest sense may be at the disposal of the profession, Burroughs Wellcome & Co. manufacture and issue a series of fine chemicals, alkaloids, etc., under the distinctive title of the 'Wellcome' Brand.

Doses in Imperial and Metric weights

The recognised doses of 'Wellcome' Brand Chemicals are indicated on the labels, and in the body of this booklet in terms of both the Imperial and Metric systems. The limits of dosage given are approximately the same in each system, but exact equivalence has not been attempted, since no useful object is served, and awkward and confusing figures result.

Recent additions

The new soluble Bismuth Salts and the soluble Iron Arsenate are the outcome of investigations conducted in the Wellcome Chemical Research Laboratories, and mark a great advance in the preparation of scale salts. Particular attention has also been devoted to the manufacture of fine alkaloids, and the standards of purity adopted are higher in many instances than those of the United States Pharmacopœia.

'Wellcome' Brand Chloroform embodies the results of the most recent researches, and provides an anæsthetic of the highest attainable degree of purity and freedom from irritating products of decomposition.

'WELLCOME' BRAND—

,, Aconitine, U.S.P.

The pure crystallised alkaloid from *Aconitum Napellus*, free from pseudaconitine and japaconitine, and from the non-toxic aconine and benzaconine. As aconitine is such a powerful poison, it should be prescribed and dispensed with the utmost caution.

DOSE—gr. 1/640 to gr. 1/400 (0·0001 gm. to 0·00015 gm.)
U.S.P. AVERAGE DOSE—0·00015 gm. (gr. 1/400)
Issued in tubes of gr. 5 (0·3 gm.)

For prices, see separate list

'Wellcome' Brand Products—*continued*

'WELLCOME' BRAND—

,, Aconitine Hydrobromide

The most suitable salt of aconitine for therapeutic use, being readily soluble in water, perfectly stable, and of uniform composition. The remarks as to purity and dosage of the alkaloid apply to this salt also.

DOSE—gr. 1/640 to gr. 1/400 (0·0001 gm. to 0·00015 gm.)

Issued in tubes of gr. 5 (0·3 *gm.*)

,, Bismuth and Iron Citrate *(Soluble)*

This salt is in the form of yellowish-green scales, readily soluble in water. The Bismuth and Iron Citrates are combined in this preparation so as to represent as nearly as possible equal parts by weight of their respective anhydrous salts.

DOSE—gr. 5 to gr. 10 (0·3 gm. to 0·65 gm.)

Issued in bottles of oz. 4 (113 *gm.*) *and oz.* 8 (227 *gm.*)

,, Bismuth and Lithium Citrate *(Soluble)*

This new combination is in the form of handsome, colourless scales, readily soluble in water, and can be used when the therapeutic effects of lithium in conjunction with those of bismuth are desired. It contains in combination an amount of lithium corresponding to 25–30 per cent. of its weight of anhydrous Lithium Citrate.

DOSE—gr. 2 to gr. 5 (0·13 gm. to 0·3 gm.)

Issued in bottles of oz. 4 (113 *gm.*) *and oz.* 8 (227 *gm.*)

,, Bismuth Citrate

This salt is free from the very common contamination of nitrate, and affords a clear solution with Ammonia. By the official test it yields 56 to 58 per cent. of bismuth oxide.

DOSE—gr. 2 to gr. 5 (0·13 gm. to 0·3 gm.)
U.S.P. AVERAGE DOSE—0·125 gm. (gr. 2)

Issued in bottles of oz. 4 (113 *gm.*) *and oz.* 8 (227 *gm.*)

For prices, see separate list

'Wellcome' Brand Products—*continued*

'WELLCOME' BRAND—

,, Bismuth Citrate *(Soluble)*

This is a stable and soluble scale salt, which is very freely soluble in water, and yields a bright solution. It possesses the great advantage over the usual forms of Bismuth and Ammonium Citrate in being stable and in not becoming insoluble after keeping. It is incompatible with acid liquids.

DOSE—gr. 2 to gr. 5 (0·13 gm. to 0·3 gm.)

Issued in bottles of oz. 4 (113 *gm.*) *and oz.* 8 (227 *gm.*)

,, Chloroform, U.S.P.

Prepared specially for anæsthesia, and marking an an important advance in its unvarying reliability. The result of the most recent researches is embodied in this product, which provides an anæsthetic of the highest attainable degree of purity, and free from the irritating products of decomposition.

DOSE—min. 1 to min. 5 (gtt. 1 to gtt. 5)
U.S.P. AVERAGE DOSE—0·3 c.c. (min. 5)

Issued in bottles of oz. 2 (57 *gm.*), 1/4 *lb.* (113 *gm.*), 1/2 *lb.* (227 *gm.*) *and* 1 *lb.* (454 *gm.*); *and in hermetically-sealed tubes of* 30 *c.c.* (*approx.* 1 *fl. oz.*) *and* 60 *c.c.* (*approx.* 2 *fl. oz.*)

,, Emetine *(Pure Alkaloid)*

This is the essential alkaloid of ipecacuanha, and not the mixture of alkaloids formerly known as Emetine.

DOSE—As an expectorant, gr. 1/200 to gr. 1/50 (0·0003 gm. to 0·0013 gm.)
As an emetic, gr. 1/6 to gr. 1/3 (0·01 gm. to 0·02 gm.)

Issued in tubes of gr. 15 (1 *gm.*) *and bottles of gr.* 60 (3·9 *gm.*)

,, Emetine Hydrobromide

The most suitable salt of emetine for therapeutic use.

DOSE—As an expectorant, gr. 1/200 to gr. 1/50 (0·0003 gm. to 0·0013 gm.)
As an emetic, gr. 1/6 to gr. 1/3 (0·01 gm. to 0·02 gm.)

Issued in tubes of gr. 15 (1 *gm.*) *and bottles of gr.* 60 (3·9 *gm.*)

For prices, see separate list

'Wellcome' Brand Products—*continued*

'WELLCOME' BRAND—

,, Gelsemine Hydrochloride (Gelsemininum Hydrochloricum Cryst. Ger.)

A salt of the crystallisable alkaloid of *Gelsemium nitidum.*

DOSE—gr. 1/120 to gr. 1/30 (0·0005 gm. to 0·002 gm.)

Issued in tubes of gr. 5 (0·3 *gm.*) *and gr.* 15 (1 *gm.*)

,, Homatropine Hydrobromide, U.S.P.

Recent research on the synthetic tropeïnes in the 'Wellcome' Chemical Research Laboratories has enabled this salt of homatropine (mandelyltropeïne) to be presented in an exceptionally pure form. The importance of this high degree of purity is best realised when the use of the minute dose of the drug as a mydriatic is considered.

DOSE—gr. 1/80 to gr. 1/20 (0·0008 gm. to 0·003 gm.)

U.S.P. AVERAGE DOSE—0·0005 gm. (gr. 1/128)

Issued in tubes of gr. 5 (0·3 *gm.*)

,, Homatropine, Pure

Tubes of gr. 5 (0·3 *gm.*)

,, Hydrastine *(Pure Alkaloid)*, U.S.P.

The crystallised white alkaloid from *Hydrastis canadensis.*

DOSE—gr. 1/4 to gr. 1 (0·015 gm. to 0·06 gm.)

U.S.P. AVERAGE DOSE—0·010 gm. (gr. 1/5)

Issued in tubes of gr. 15 (1 *gm.*) *and bottles of oz.* 1 (28·3 *gm.*)

,, Hydrastine Hydrochloride

This salt of the pure white alkaloid is readily soluble in water.

DOSE—gr. 1/4 to gr. 1 (0·015 gm. to 0·06 gm.)

Issued in tubes of gr. 15 (1 *gm.*) *and bottles of oz.* 1 (28·3 *gm.*)

,, Hydrastinine Hydrochloride, U.S.P.

This substance is an oxidation product of the alkaloid hydrastine, and is free from other bases produced at the same time with which it is generally associated.

DOSE—gr. 1/4 to gr. 1/2 (0·015 gm. to 0·03 gm.)

U.S.P. AVERAGE DOSE—0·030 gm. (gr. 1/2)

Issued in tubes of gr. 5 (0·3 *gm.*) *and* 1 *gm.* (*gr.* 15)

'Wellcome' Brand Products—*continued*

'WELLCOME' BRAND—

,, Iron Arsenate *(Soluble)*

This product is in handsome green scales, and contains 13 per cent. of arsenic in the form of arsenate, equivalent to 34–35 per cent. of anhydrous ferric arsenate. It may conveniently be used for the preparation of a solution similar to the Syrup of Arsenate of Iron of the National Formulary.

DOSE—gr. 1/16 to gr. 1/4 (0·004 gm. to 0·015 gm.)

Issued in bottles of oz. 1 (28·3 *gr.*)

,, Manganese and Iron Citrate *(Soluble)*

This is a scale salt, readily soluble in water. It contains about 7 per cent. of manganese and 14 per cent. of iron in organic combination.

DOSE—gr. 3 to gr. 10 (0·2 gm. to 0·65 gm.)

Issued in bottles of oz. 1 (28·3 *gm.*), *oz.* 4 (113 *gm.*), *oz.* 8 (227 *gm.*) *and oz.* 16 (454 *gm.*)

,, Manganese and Iron Citrate with Arsenic *(Soluble)*

This preparation contains 0·5 per cent. of arsenious anhydride, but is otherwise indentical with Manganese and Iron Citrate *(Soluble)*.

DOSE—gr. 3 to gr. 10 (0·2 gm. to 0·65 gm.)

Issued in bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

,, Manganese and Iron Citrate with Quinine *(Soluble)*

This preparation contains 15 per cent. of quinine, but is otherwise indentical with Manganese and Iron Citrate *(Soluble)*.

DOSE—gr. 3 to gr. 10 (0·2 gm. to 0·65 gm.)

Issued in bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

,, Manganese and Iron Citrate with Strychnine *(Soluble)*

This preparation contains 1 per cent. of strychnine, but is otherwise identical with Manganese and Iron Citrate *(Soluble)*.

DOSE—gr. 1 to gr. 3 (0·06 gm. to 0·2 gm.)

Issued in bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

'Wellcome' Brand Products—*continued*

'WELLCOME' BRAND—

,, Manganese and Iron Phosphate *(Soluble)*

This scale salt dissolves readily in warm water. It contains about 7 per cent. of manganese and 14 per cent. of iron.

Dose—gr. 3 to gr. 10 (0·2 gm. to 0·65 gm.)

Issued in bottles of oz. 1 (28·3 *gm.*), *oz.* 4 (113 *gm.*), *oz.* 8 (227 *gm.*) *and oz.* 16 (454 *gm.*)

,, Manganese Citrate *(Soluble)*

This preparation is in the form of handsome, nearly colourless scales, which are readily soluble in water. It contains about 12 per cent. of manganese in organic combination.

Dose—gr. 3 to gr. 10 (0·2 gm. to 0·65 gm.)

Issued in bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

,, Physostigmine Hydrobromide (Eserine Hydrobromide)

Dose—gr. 1/60 to gr. 1/20 (0·001 gm. to 0·003 gm.)

Issued in tubes of gr. 5 (0·3 *gm.*) *and gr.* 15 (1 *gm.*)

,, Physostigmine Salicylate (Eserine Salicylate), U.S.P.

Dose—gr. 1/60 to gr. 1/20 (0·001 gm. to 0·003 gm.)
U.S.P. Average Dose—0·001 gm. (gr. 1/64)

Issued in tubes of gr. 5 (0·3 *gm.*) *and gr.* 15 (1 *gm.*)

,, Physostigmine Sulphate (Eserine Sulphate), U.S.P.

Dose—gr. 1/60 to gr. 1/20 (0·001 gm. to 0·003 gm.)
U.S.P. Average Dose—0·001 gm. (gr. 1/64)

Issued in tubes of gr. 2 (0·13 *gm.*) *and gr.* 5 (0·3 *gm.*)

,, Pilocarpine Hydrochloride, U.S.P.

The 'Wellcome' Brand salts of pilocarpine are free from the less active isopilocarpine and the inactive pilocarpidine. Their purity is guaranteed by their respective melting points, which are indicated on each package.

Dose—gr. 1/20 to gr. 1/2 (0·003 gm. to 0·03 gm.)
U.S.P. Average Dose—0·010 gm. (gr. 1/5)

Issued in tubes of gr. 15 (1 *gm.*); *and in bottles of gr.* 60 (3·9 *gm.*), *oz.* 1/2 (14 *gm.*) *and oz.* 1 (28·3 *gm.*)

'Wellcome' Brand Products—*continued*

'WELLCOME' BRAND—

,, Pilocarpine Nitrate, U.S.P.

This salt of pilocarpine is stable, and is the one best adapted for general use.

DOSE—gr. 1/20 to gr. 1/2 (0·003 gm. to 0·03 gm.)
U.S.P. AVERAGE DOSE—0·010 gm. (gr. 1/5)
Issued in tubes of gr. 15 (1 *gm.*); *and in bottles of gr.* 60 (3·9 *gm.*), *oz.* 1/2 (14 *gm.*) *and oz.* 1 (28·3 *gm.*)

,, Podophyllin (Resina Podophylli, U.S.P.)

Prepared strictly in accordance with the official method, from a carefully-selected drug.

DOSE—gr. 1/4 to gr. 1 (0·015 gm. to 0·06 gm.)
U.S.P. AVERAGE DOSE—{ Purgative, 0·015 gm. (gr. 1/4)
{ Laxative, 0·005 gm. (gr. 1/10)
Issued in bottles of oz. 1 (28·3 *gm.*), *oz.* 4 (113 *gm.*) *and oz.* 8 (227 *gm.*)

,, Quinine Bihydrochloride (Acid Quinine Hydrochloride)

DOSE—gr. 1 to gr. 10 (0·06 gm. to 0·65 gm.)
Issued in bottles of oz. 1 (28·3 *gm.*)

,, Quinine Bisulphate, U.S.P.

This salt, being readily soluble in water (1 in 10), is more convenient for many purposes than the insoluble official sulphate.

DOSE—gr. 1 to gr. 10 (0·06 gm. to 0·65 gm.)
U.S.P. AVERAGE DOSE—0·250 gm. (gr. 4)
Issued in bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

,, Quinine Hydrobromide, U.S.P.

DOSE—gr. 1 to gr. 10 (0·06 gm. to 0·65 gm.)
U.S.P. AVERAGE DOSE—0·250 gm. (gr. 4)
Issued in bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

,, Quinine Hydrochloride, U.S.P.

DOSE—gr. 1 to gr. 10 (0·06 gm. to 0·65 gm.)
U.S.P. AVERAGE DOSE—0·250 gm. (gr. 4)
Issued in bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

,, Quinine Hypophosphite

DOSE—gr. 1 to gr. 3 (0·06 gm. 0·2 gm.)
Issued in bottles of oz. 1 (28·3 *gm.*)

,, Quinine Phosphate

DOSE—gr. 1 to gr. 10 (0·06 gm. to 0·65 gm.)
Issued in bottles of oz. 1 (28·3 *gm.*)

'Wellcome' Brand Products—*continued*

'WELLCOME' BRAND—

,, Quinine Salicylate, U.S.P.

Prepared from physiologically pure salicylic acid.

DOSE—gr. 2 to gr. 6 (0·13 gm. to 0·4 gm.)
U.S.P. AVERAGE DOSE—0·250 gm. (gr. 4)

Issued in bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*)

,, Quinine Sulphate

This salt is presented in a more compact form of crystals than that usually supplied, although identical in composition with the official salt. It is believed that its diminished bulk will render it more convenient for storage and dispensing.

When ordering Quinine Sulphate, please indicate whether "compact" or "large flake" is required.

DOSE—gr. 1 to gr. 10 (0·06 gm. to 0·65 gm.)
U.S.P. AVERAGE DOSE—0·250 gm. (gr. 4)

Issued in bottles of oz. 1 (28·3 *gm.*) *and oz.* 4 (113 *gm.*); *also in tins of oz.* 25 (709 *gm.*) *and oz.* 100 (2835 *gm.*)

,, Quinine Sulphate *(Large Flake)*, U.S.P.

This is the official salt in the usual bulky form of light feathery crystals. We recommend in preference the compact crystals, which occupy one-third the space, as being more portable and convenient.

When ordering Quinine Sulphate, please indicate whether "compact" or "large flake" is required.

DOSE—gr. 1 to gr. 10 (0·06 gm. to 0·65 gm.)
U.S.P. AVERAGE DOSE—0·250 gm. (gr. 4)

Issued in bottles of oz. 1/4 (7 *gm.*), *oz.* 1/2 (14 *gm.*) *and oz.* 1 (28·3 *gm.*); *and in tins of oz.* 4 (113 *gm.*); *also in tins of oz.* 25 (709 *gm.*) *and oz.* 100 (2835 *gm.*)

For prices, see separate list



'WELLCOME' BRAND CHEMICALS

were awarded A GRAND PRIZE at the International Exposition, St. Louis, 1904, and A GRAND PRIZE at the Liége International Exhibition, 1905.

BURROUGHS WELLCOME & CO.

LONDON (ENG.) NEW YORK MONTREAL SYDNEY
CAPE TOWN

o o o

United States Offices and Warehouse—

45, LAFAYETTE STREET, NEW YORK CITY

Cables & Marconigrams—"TABLOID, NEW YORK"
Telephone No.—"1350, FRANKLIN"
A B C *and* LIEBER'S *Telegraphic Codes used*

o o o

Canadian Office—

103 & 104, CORISTINE BUILDING,
ST. NICHOLAS & ST. PAUL STS., MONTREAL

Cable Address—"TABLOID, MONTREAL"
G.P.O. Box—"73" *Telephone No.*—"MAIN, 93"

o o o

Special Depots Abroad:

SYDNEY—481, Kent Street
CAPE TOWN—5, Loop Street
MILAN—14, Via Carlo Alberto
AMSTERDAM—H. Sanders, Rokin, 8
BARCELONA—Vicente Ferrer & Co. Calle de Comercio, 112–114
BASLE—Nadolny & Co., Spitalstrasse, 9
BERLIN — Linkenheil & Co. Genthinerstrasse, 19
BOMBAY—Thomson & Taylor
BRUSSELS—Charles Delacre & Co. Pharmacie Anglaise, 50–52, Rue Coudenberg
BUENOS AIRES — Diego Gibson, Defensa, 192
CAIRO, ALEXANDRIA AND PORT SAID—E. Del Mar
CALCUTTA—Smith, Stanistreet & Co.
COLOMBO—Cargills, Ltd.
COPENHAGEN—Alfred Benzon
GENEVA AND ZURICH—Uhlmann Eyraud
HONG-KONG—A. S. Watson & Co.
LISBON—F. Freire d'Andrade & Irmão, 123, Rua do Alecrim, 127
MEXICO CITY—Emilio Kentzler, Calle 1A, de San Francisco, 15
NICE—Reilly & Co., 8, Rue Niepce
PARIS—Scott & Co., 4, Rue Chauveau-Lagade
STOCKHOLM — Apoteket Norröstjernans Droghandel
TEHERAN—A. Schwerin, Pharmacie Centrale
VIENNA—M. Kris, Brandstätte, 1

Depots in U.S.A.

ATLANTA, GA.—Jacobs Pharmacy Co., 10, Marietta Street
BOSTON, MASS.—Eastern Drug Co. 8–20, Fulton Street
CHICAGO, ILL.—E. H. Buehler, 134, Lake Street
HOUSTON, TEX.—Houston Drug Co., 102, Travis Street
KANSAS CITY, KANS.—Faxon, Horton & Gallagher
LOS ANGELES, CAL.—F. W. Braun & Co., 501, North Main Street
LOUISVILLE, KY.—Robinson Pettet Co., 528–532, West Main Street
NEW ORLEANS, LA.—Finlay, Dicks & Co., Magazine and Common Streets
PHILADELPHIA, PA.—Smith, Kline & French Co., 429–435, Arch Street
PORTLAND, OREGON—The Woodard Clark Drug Co., Fourth and Washington Streets
SAN FRANCISCO, CAL.—Langley Michaels Co., *cor.* Second and Park Streets
SEATTLE, WASH.—Stewart Holmes Drug Co., 209, Third Street
ST. LOUIS, MO.—Meyer Bros. Drug Co., Fourth and Clark Streets

"The strong thing is the just thing."

Carlyle.

'Tabloid' marks the work of Burroughs Wellcome & Company.

The use of the word is to enable the physician, chemist and patient to get the right thing with one short word, instead of the firm's long name.

If another maker applies the word to his product, the act is unlawful. 'Tabloid' is our trade-mark.

If a vendor disregard it, in dispensing or selling, the act is unlawful—for the same reason.

We prosecute both offenders rigorously, in the interest of physicians, chemists, patients and ourselves.

Please inform us of any instance of either offence.

BURROUGHS WELLCOME AND CO.

Trade Mark 'SOLOID' Brand



MICROSCOPIC STAINS

Solutions of the aniline dyes for microscopic use are liable to decompose, and are, therefore, unsatisfactory. The delicate nature of the work and the necessity for obtaining correct and definite results, demand the employment of reliable agents. Upon differential diagnosis by microscopic examination may depend consequences the importance of which cannot be exaggerated, and such diagnosis cannot be certain where ready-made staining solutions are employed; these solutions do not keep well, and are affected by vicissitudes of transit and by alterations of temperature and of climate. 'Soloid' Microscopic Stains mark an enormous advance towards the perfection of the technique of microscopic work. The aniline dyes used in their manufacture are of the highest quality; the 'Soloid' products are of such strength that small quantities of staining solutions can be made quickly and easily; the activity and freshness of the dye are always assured.

Reliable Stains

'Soloid' Microscopic Stains are dry, stable and readily soluble. They have been employed in every land, and have been unaffected by extremes of climate. 'Soloid' products are easily carried; there is no risk of loss by breakage, or of damage by escape of the staining fluid. They are always fresh, and are stable in all climates. They always give satisfaction, since they retain their activity and their staining power unimpaired.

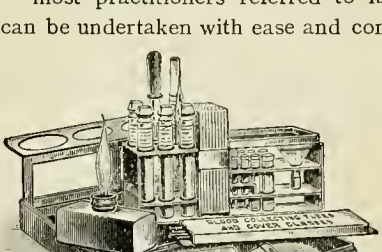
Always Ready and Stable

For list of 'Soloid' Stains, see pages 137-8

'SOLOID' Brand BACTERIOLOGICAL CASE (No. 505)

This aseptic, polished-metal case provides the necessary equipment for clinical examination by the most recent scientific methods. With its aid bacteriological investigations, which are by most practitioners referred to laboratory workers, can be undertaken with ease and convenience

A scientific equipment



No. 505 'SOLOID' BACTERIOLOGICAL CASE
Measurements, $5 \times 3\frac{1}{2} \times 1\frac{5}{8}$ in.

in the surgery. It keeps together in a compact form the essentials for such work. Its small size and light weight permit of its being carried in the pocket, and the physician can utilize it at the patient's bedside to obtain a blood sample or a throat swab.

Light and compact

The outfit includes needles and collecting pipettes for taking blood samples. It provides diluting fluid and special stains for blood examination. It contains an adequate supply of slides and cover-slips, and a large selection of 'Soloid' Microscopic Stains; forceps to hold the slide or cover-slip, and a spirit lamp for heating and fixing the films are also included. A rod-stoppered phial of Canada Balsam provides the material for mounting the specimen, which is then ready for microscopic examination.

For full details, see page 101

MEMORANDA

MEMORANDA

MEMORANDA

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MEMORANDA

'ERNUTIN'

(Trade Mark)

The various extracts and preparations of Ergot in ordinary use consist almost entirely of inert or harmful matters having little or none of the therapeutic action desired. Those preparations which exhibit the characteristic effects of ergot on the blood pressure and the uterus, in laboratory experiment or clinical use, owe their activity to traces of a **specific active alkaloid,** the effect of which is in such preparations obscured and complicated by the depressor constituents. As the result of researches carried out at the Wellcome Physiological Research Laboratories, crystalline salts of this alkaloid, to which the scientific name of 'Ergotoxine' has been given, have recently been obtained in a state of chemical purity (*see* Barger and Carr, *Chemical News* [Eng.], xciv., p. 89, August 24, 1906). The action of this principle on the sympathetic nervous system, as indicated by H. H. Dale in his papers on this subject (*Journal of Physiology* [Eng.], vol. xxxii., p. 58 [*Proc. Phys. Soc.*], 1905; vol. xxxiv., p. 163, 1906), affords a standard for the measurement of activity. **'ERNUTIN' is a preparation of uniform potency, and contains this active principle in a state of purity which up to the present has never been approached.**

The active therapeutic principle of Ergot

Method of Standardisation



Phial of Ernutin (Hypodermic) Actual size

'ERNUTIN' (Hypodermic) is issued in hermetically-sealed phials containing 10 minims, and being sterile is eminently suitable for hypodermic or intramuscular injection.

Dose: Five to ten minims by hypodermic injection.

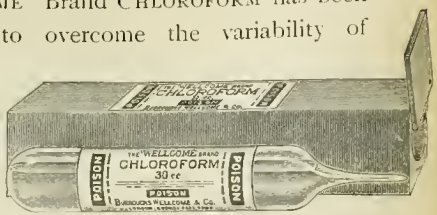
'ERNUTIN' (for Oral administration) is supplied in bottles of 1 oz.

Dose: Thirty to sixty minims.

'Ernutin' preparations should be protected from light.

'WELLCOME' Brand CHLOROFORM

'WELLCOME' Brand CHLOROFORM has been introduced to overcome the variability of result experienced in the administration of chloroform as an anæsthetic.



'Wellcome' Brand Chloroform in 30 c.c. in hermetically-sealed tube. Length of tube 5¼ in.

In its production the greatest care is taken to ensure the highest attainable degree of purity and freedom from irritating products of decomposition. It is also particularly characterised by containing a small but definite amount of ethyl chloride, recent demonstrations having shown that a proportion of ethyl chloride, so small as hardly to be capable of detection by chemical means, is often present in chloroform, and has a marked beneficial influence on its action as an anæsthetic. (Wade and Finnemore, *Journal of the Chemical Society* [Eng.], 1904, **85**, 938; Wade, *Transactions of the Society of Anæsthetists* [Eng.], 1905.)

Constant composition



'Wellcome' Brand Chloroform, in ¼-lb. dropping bottle. Height of bottle, 5 in.

'Wellcome' Brand Chloroform conforms to the requirements of the United States Pharmacopœia, and is issued in 2 oz., ¼ lb., ½ lb. and 1 lb. amber-coloured stoppered bottles. Also in 30 c.c. and 60 c.c. hermetically-sealed tubes.

For particulars and prices, see 'Wellcome' Chemicals Price List

'WELLCOME'
Brand
QUININE SULPHATE

'WELLCOME' Brand QUININE SULPHATE is presented in two forms—"compact crystals" and "large flake." The "large flake" is the official salt in the usual bulky form of fine feathery crystals which in the 'Wellcome' brand product are exceptionally light and white. It is supplied in bottles of ¼ oz., ½ oz. and 1 oz. as illustrated; also in 4-oz., 25-oz. and 100-oz. tins. The "compact crystals," which occupy one-third the space, are more convenient for storage and dispensing. They conform to the same high standard of purity as the official salt, and are identical in composition. 'Wellcome' Brand Quinine Sulphate (Compact Crystals) is supplied in 1-oz. and 4-oz. bottles, and in 25-oz. and 100-oz. tins.

"Large Flake"

"Compact Crystals"

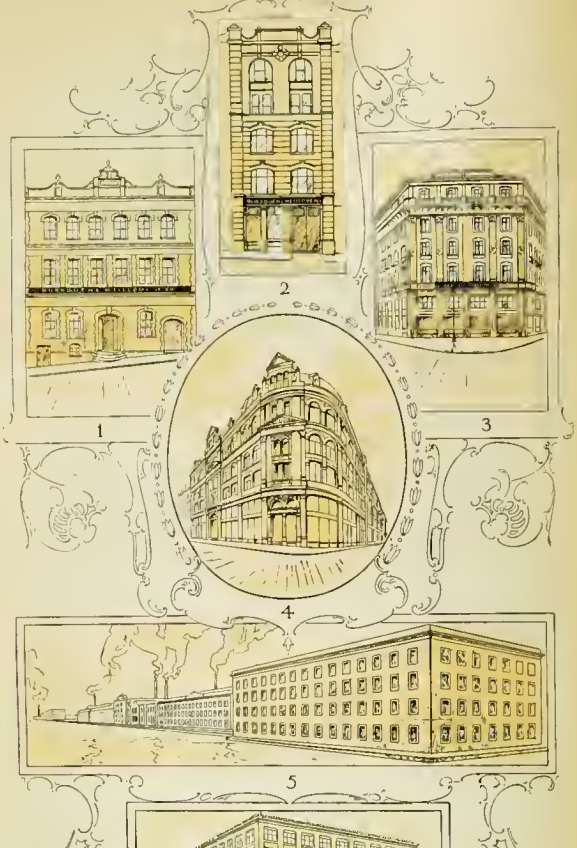


'Wellcome' Brand Quinine Sulphate "Large Flake" Height of 1 oz. bottle, 4½ in.

Orders for Quinine Sulphate should indicate whether "compact" or "large flake" is required.

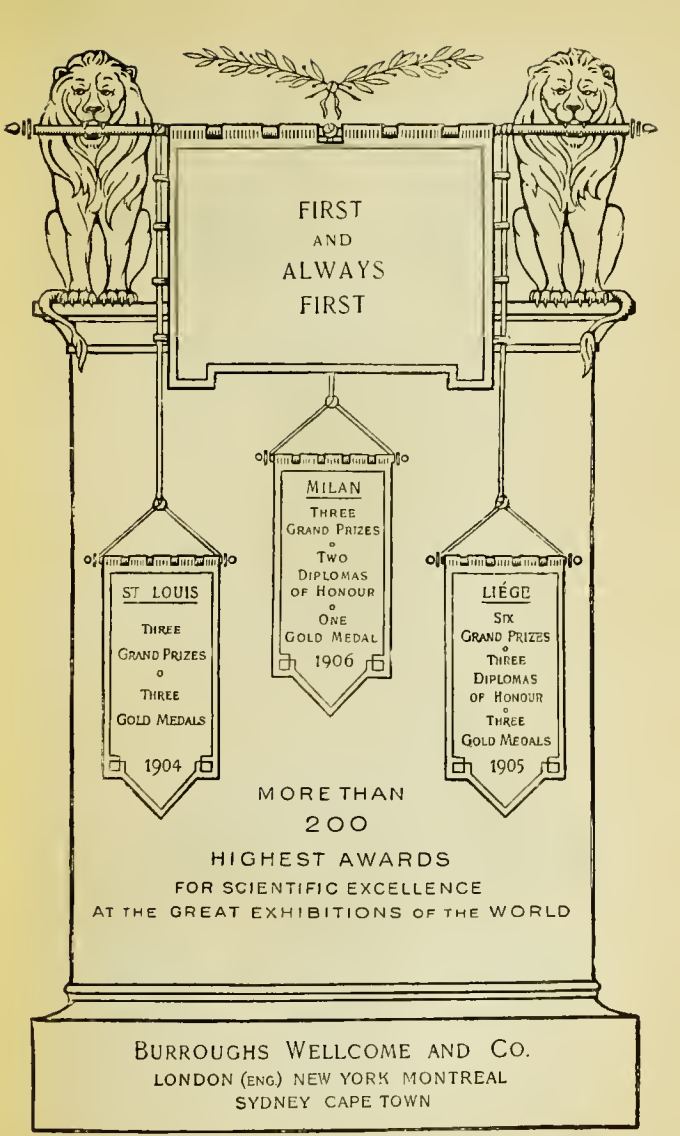
See also page 176

For particulars and prices, see 'Wellcome' Chemicals Price List



BURROUGHS WELLCOME & CO.'S OFFICES, WAREHOUSES, WORKS AND DEPOTS IN ENGLAND, AUSTRALIA, SOUTH AFRICA AND ITALY

1—Cape Town 2—Sydney, N. S. W. —Milan 4—London (Eng.)
5—'Wellcome' Chemical Works, Dartford, near London, England
6—Montreal

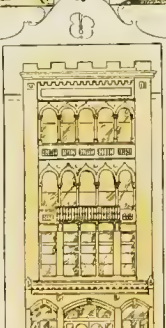

FIRST
AND
ALWAYS
FIRST
MILAN
THREE
GRAND PRIZES
TWO
DIPLOMAS
OF HONOUR
ONE
GOLD MEDAL
1906
ST LOUIS
THREE
GRAND PRIZES
THREE
GOLD MEDALS
1904
LIÉGE
SIX
GRAND PRIZES
THREE
DIPLOMAS
OF HONOUR
THREE
GOLD MEDALS
1905
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FOR SCIENTIFIC EXCELLENCE
AT THE GREAT EXHIBITIONS OF THE WORLD
BURROUGHS WELLCOME AND CO.
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SYDNEY CAPE TOWN



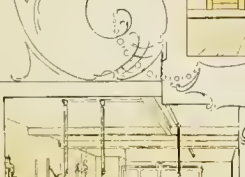
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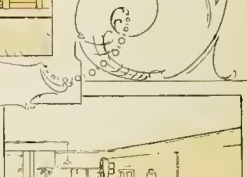
2



3



4



5



6

1—First Floor
2—Second Floor
3—Exterior
4—Third Floor
5—Combustion Room
6—Library

WELLCOME CHEMICAL RESEARCH LABORATORIES, KING STREET, LONDON, ENGLAND

This PRIVATE INSTITUTION is absolutely separate and distinct from the business of BURROUGHS WELLCOME & CO., and is under separate and distinct direction, although in this Institution a large amount of important scientific work is carried out for the firm.

THE

WELLCOME CHEMICAL RESEARCH LABORATORIES

were awarded

ONE GRAND PRIZE

AND

THREE GOLD MEDALS

AT THE

INTERNATIONAL EXPOSITION AT ST. LOUIS, 1904

ONE GRAND PRIZE

ONE DIPLOMA OF HONOUR

AND

TWO GOLD MEDALS

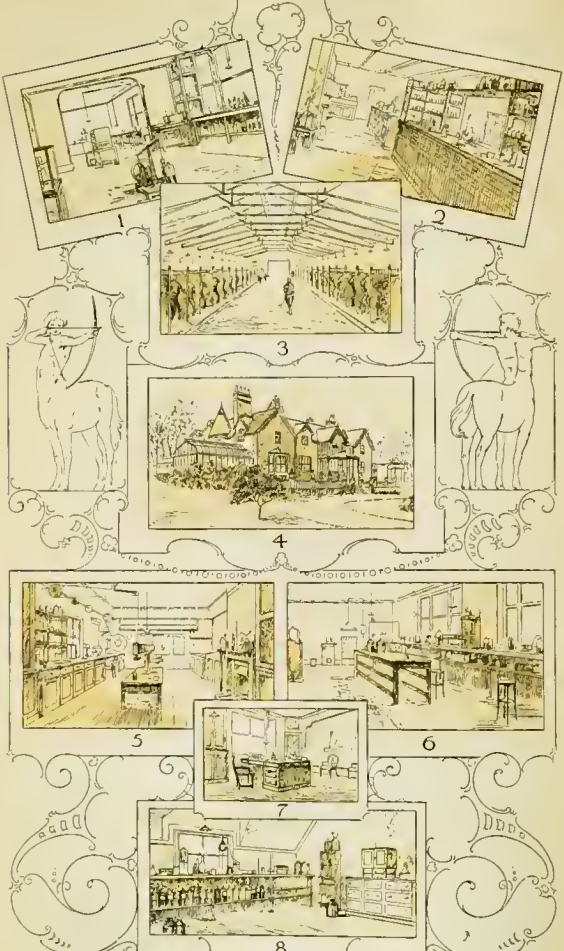
AT THE

INTERNATIONAL EXPOSITION AT LIÉGE, 1905

for Chemical and Pharmacognostical Research, etc., etc.



THREE GOLD MEDALS—ST. LOUIS



1—Bacteriological and Pathological Laboratories 2—Laboratory for Physiological and Bacteriological Chemistry 3—One of the Stables 4—General View 5—Physiological Laboratory 6—Laboratory for preparing nutrient media 7—Secretary's Office 8—Serum Laboratory

Wellcome Physiological Research Laboratories, Herne Hill, near London, England

This Private Institution is absolutely separate and distinct from the business of Burroughs Wellcome & Co., and is under separate and distinct direction, although in this Institution a large amount of important scientific work is carried out for the firm.

THE

WELLCOME PHYSIOLOGICAL RESEARCH LABORATORIES

were awarded

ONE GRAND PRIZE

AND

ONE GOLD MEDAL

AT THE

INTERNATIONAL EXPOSITION AT ST. LOUIS, 1904

ONE GRAND PRIZE

AND

TWO GOLD MEDALS

AT THE

INTERNATIONAL EXPOSITION AT LIÉGE, 1905

for Physiological Research and Preparations,

etc., etc.



GRAND PRIZE—ST. LOUIS



GOLD MEDAL—ST. LOUIS

TRADE MARK

'TABLOID' Brand PASTILLES

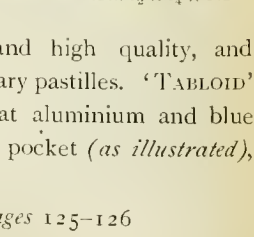
IT is well recognised that pastilles offer a convenient and pleasant means of administering a number of medicaments when localised action is desired. It is not, however, so well appreciated that purity, accuracy and reliability can be secured only by adopting far higher standards and more scientific methods of manufacture than are usual. Both these steps have been taken in the case of 'TABLOID' PASTILLES, which are prepared in the laboratories of Burroughs Wellcome & Co. under the immediate supervision of expert pharmacists. 'TABLOID' PASTILLES contain pure ingredients, in accurate doses, and in the most active condition.

Superiority of 'Tabloid' Pastilles

Purity, accuracy and activity

'TABLOID' PASTILLES dissolve slowly and uniformly, thus ensuring the fullest possible local effect. The basis of these pastilles has been carefully chosen so as to increase the efficacy of the active ingredients. Every product is distinctly marked with the trade mark 'TABLOID,' which is a guarantee of purity and high quality, and distinguishes them from ordinary pastilles. 'TABLOID' PASTILLES are packed in neat aluminium and blue metal boxes suitable for the pocket *(as illustrated)*, and in two sizes.

The mark of quality

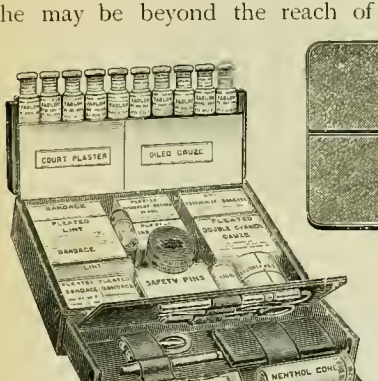


Measurements, $3\frac{1}{2} \times 2\frac{3}{4} \times 1$ in

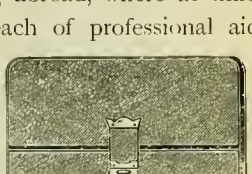
For full list, see pages 125–126

No. 230 'Tabloid' Brand Medicine Case

A leather pocket-case, providing a small but very comprehensive medical and surgical outfit. The physician will find this an extremely serviceable case for a patient travelling abroad, where at times he may be beyond the reach of professional aid.



OPEN



CLOSED

No. 230. 'Tabloid' Brand Medicine Case
Measurements, 8 × 5½ × 2½ in. (approx.)

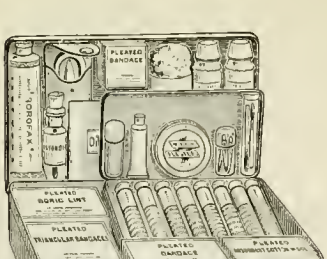
The approximate size of this compact equipment is 8 × 5½ × 2½ in. It accommodates ten tubes of 'Tabloid' and 'Soloid' Brand products, which may be varied at individual selection. The surgical accessories comprise 'Tabloid' Pleated Compressed Bandages and Dressings, tourniquet, folding scissors, forceps, lancet, surgical needles in book, suture silk, adhesive plaster, tape, caustic in holder, tube of 'Borofax,' clinical thermometer, etc.

It is conveniently shaped for packing in trunk or bag, and may be had covered in morocco leather or cowhide.

See also pages 85–101

TRADE MARK 'TABLOID' Brand MEDICINE CASE

(The Motor-Car Case)



No. 259 'Tabloid' Brand Medicine Case (Motor-Car Case)
Measurements, $7\frac{1}{2} \times 4\frac{1}{4} \times 2$ in.

A black japanned-metal case, with rounded corners, suitable for patients to carry when motoring or touring. It provides simple first-aid remedies and such accessories as may be required in case of emergency. The contents may be varied at the discretion of the medical man to meet individual requirements. When no special instructions are given the case is fitted as follows: 'Tabloid' Pleated Compressed Dressings, comprising one packet of two triangular bandages, one $2\frac{1}{2}$-inch bandage, one 1-inch bandage, one ounce absorbent cotton wool, and one ounce boric lint. One pair of folding scissors, two camel-hair pencils in glass tube, one yard $\frac{1}{2}$-inch plaster in tin, Carron oil, sal volatile, safety and ordinary pins, court plaster, oiled gauze, small tube of 'Borofax,' "protective skin," eye sponge, castor oil in bottle with brush, 'Tabloid' Brand Quinine Bisulphate, gr. 2; Soda Mint; Cascara Sagrada, gr. 2; Caffeine Compound; Bismuth Salicylate, gr. 5; Potassium Chlorate and Borax; 'Soloid' Brand Lead Subacetate, gr. 10; Boric Acid, gr. 6 (perfumed).

Comprehensive outfit

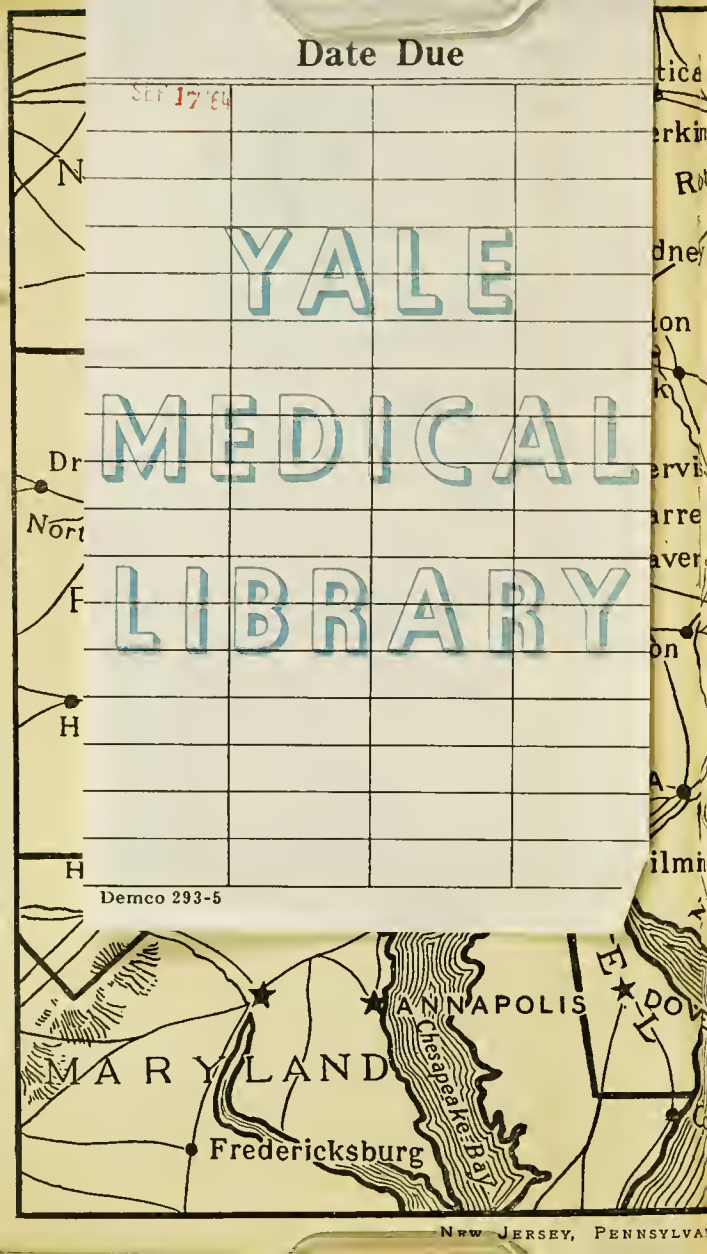
See also pages 85-101

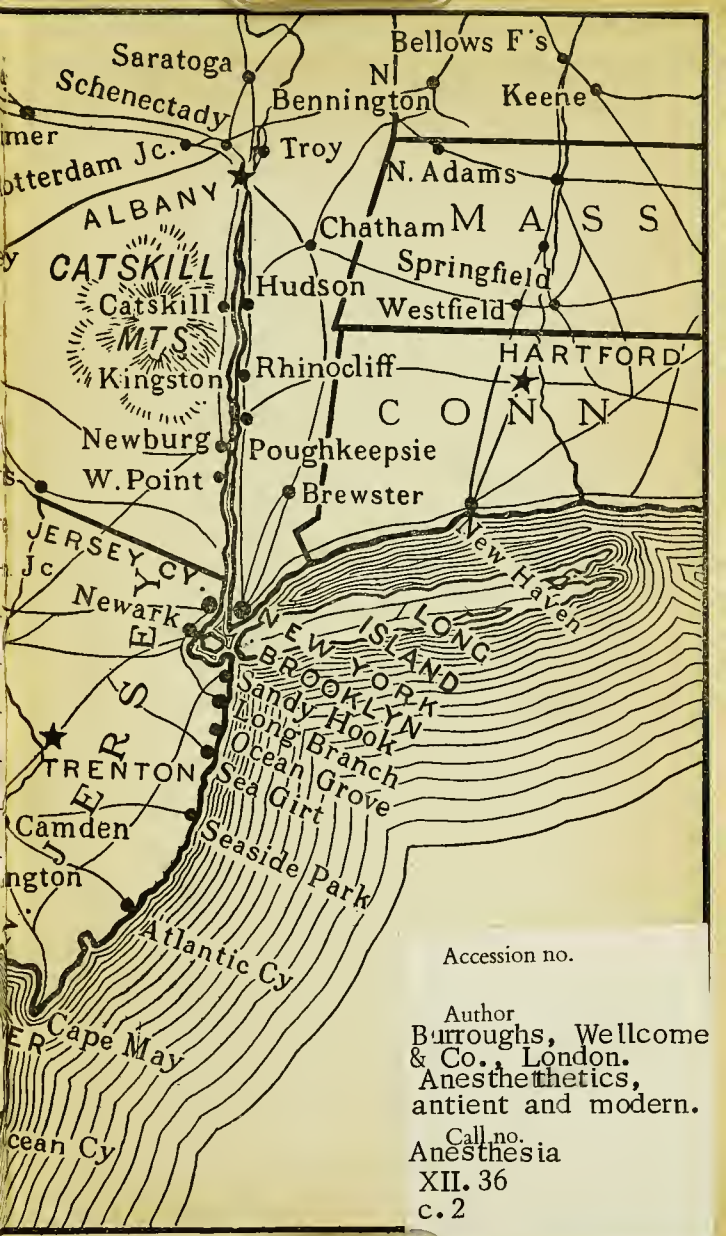
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Anesthetics, antient and modern.

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